UNITED STATES DISTRICT COURT

DISTRICT OF NEVADA

ZANE M. FLOYD,

Plaintiff,

vs.

CHARLES DANIELS, Director, Nevada Department of Corrections; HAROLD WICKHAM, NDOC Deputy Director of Operations; WILLIAM GITTERE, Warden, Ely State Prison; WILLIAM REUBART, Associate Warden at Ely State Prison; DAVID DRUMMOND, Associate Warden at Ely State Prison; IHSAN AZZAM, Chief Medical Officer of the State of Nevada; DR. MICHAEL MINEV, NDOC Director of Medical Care, DR. DAVID GREEN, NDOC Director of Mental Health,

Defendants.

Case No. 3:21-cv-00176-RFB-CLB

Las Vegas, Nevada
Wednesday, December 15, 2021
8:47 a.m.

EVIDENTIARY HEARING, DAY 5

CERTIFIED COPY

REPORTER'S TRANSCRIPT OF PROCEEDINGS

THE HONORABLE RICHARD F. BOULWARE, II,
UNITED STATES DISTRICT JUDGE

APPEARANCES: See next page

COURT REPORTER: Patricia L. Ganci, RMR, CRR
United States District Court
333 Las Vegas Boulevard South, Room 1334
Las Vegas, Nevada 89101

Proceedings reported by machine shorthand, transcript produced by computer-aided transcription.

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LAS VEGAS, NEVADA; WEDNESDAY, DECEMBER 15, 2021; 8:47 A.M.

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P R O C E E D I N G S

THE COURT: Please be seated.

COURTROOM ADMINISTRATOR: Now calling Zane M. Floyd versus Charles Daniels, et al., Case Number 22:3 -- 3:21-cv-00176-RFB-CLB. This is the time for the evidentiary hearing, Day 5.

Starting with counsel for plaintiffs, please note your appearance for the record.

MR. ANTHONY: Good morning, Your Honor. David Anthony from the Federal Public Defender's Office for Zane Floyd. Also appearing with me is my cocounsel, Brad Levenson.

Mr. Floyd is appearing by video link from the Nevada Department of Corrections this morning.

THE COURT: Good morning. Mr. Floyd, can you hear us?

MR. FLOYD: Yes, sir, I can.

THE COURT: All right. Thank you.

MR. GILMER: Good morning, Your Honor. Randall Gilmer from the Office of the Attorney General representing all of the NDOC Defendants in this case, which would be all of the defendants other than Dr. Azzam.

To my right is Deputy Attorney General Ian Carr. Also from the Attorney General's Office. To his immediate right is Director Charles Daniels, defendant in this case.

On the bench behind us is Defendant Deputy Director William Gittere listed as "Warden" in the complaint, as well as Natasha Petty, legal researcher from our office. Good morning.

THE COURT: Good morning.

MR. POMERANTZ: Good morning, Your Honor. Crane Pomerantz on behalf of Defendant Ihsan Azzam.

THE COURT: Good morning.

So have you all talked about witness order, what we want to do today?

MR. GILMER: We have, Your Honor. It's my understanding, plaintiff's counsel correct me if I'm wrong, that we are going to continue with Dr. Buffington. And then if there is time remaining when we are done with Dr. Buffington, Dr. Yun -- we would begin with Dr. Yun, who's already I believe logged on via Zoom. So he would be ready to go as soon as -- as soon as we were done with Dr. Buffington.

THE COURT: And if we need more time for Dr. Yun, what's the -- what's plan for that?

MR. GILMER: The plan for that is Dr. Yun is available to return after 11 a.m. on Friday --

THE COURT: Okay.

MR. GILMER: -- if we need to finish. That way we would at least be able to use all of the time today.

THE COURT: That makes perfect sense. Okay.

Anything else that we should do before we resume with

Dr. Buffington?

MR. GILMER: Your Honor, I have one brief thing and I'm sure -- and this might be premature because I'm sure the Court before we close will ask if all exhibits are in. But I just noticed from yesterday I had asked that 511 A be one of the exhibits that would be admitted. And I just wasn't clear when I looked at the transcript if that was one that was admitted. Because I had mentioned it, but then when I -- at the end I said 502 through a number and I didn't specifically mention the 511 A portion. So I just wanted to make sure there wasn't any --

THE COURT: I thought she did through 512, which would have included 511 A, but --

MR. GILMER: Yes. And that's why I was saying there was just some discrepancy there. Because I mentioned 511 A, but then when we -- when I did it at the end, I said 502 through 512 and when they are -- on the sheet where it says they were admitted, it doesn't say 511 A. And it was probably just because I was inartfully in the way I worded it.

THE COURT: That's fine. So I'll admit 511 A.

(Defendant's Exhibit 511 A is admitted.)

MR. ANTHONY: Your Honor, could we just have for the record what 511 A is? Just because I don't see it in the exhibit list and I'm not sure if I see it in the exhibits either, so ...

MR. GILMER: I believe it was in the exhibit list. It

was the -- it was attached to his C.V. It's the list of cases.

THE COURT: The chart of his testimony, which cases he's testified.

MR. GILMER: Chart that was attached to the C.V.

MR. ANTHONY: Okay. Thank you.

MR. GILMER: And I apologize if it was miss ...

THE COURT: All right. So anything else before we resume with Dr. Buffington's testimony?

MR. ANTHONY: Not from plaintiffs, Your Honor.

MR. GILMER: Nothing, Your Honor. Thank you.

MR. POMERANTZ: No, sir.

THE COURT: All right. Dr. Buffington, why don't you come back up.

THE WITNESS: Good morning, Your Honor.

THE COURT: You recognize, sir, that you are still under oath?

THE WITNESS: I do.

THE COURT: Okay. And as I -- as I indicated yesterday, if you like to, you can take your mask off when you're behind the Plexiglas.

So I believe, Mr. Gilmer, you had a few more questions that you had to ask.

MR. GILMER: Yes. And I -- I know I framed it with the word "few" without a number, so ...

THE COURT: Okay. All right. Go ahead, Mr. Gilmer.

MR. GILMER: Thank you, Your Honor.

THE COURT: Mr. Gilmer, I did have one question for you --

MR. GILMER: Yes.

THE COURT: -- which is, in the context of the site visit, I don't know if there were any photographs or anything taken.

MR. GILMER: There were not.

THE COURT: And I say that because I don't know that I have in the record photographs of this equipment. I don't know if there's -- I have a photograph of the room, but, as you know, the execution protocol lists equipment --

MR. GILMER: Yes.

THE COURT: -- and how it will be set up. There's nothing like that in the record right now.

MR. GILMER: There is not, Your Honor. There is no photographs, and we can obviously have a conversation about that at a later time.

THE COURT: We can and I'm just saying that to you to -- to give you some sense of what I might expect in the future in terms of future meetings that we may have that I would expect that I would at least be able to see that.

MR. GILMER: Yes.

THE COURT: And so -- but I also just want to confirm, because we do have a fairly extensive record, that that wasn't

something that was in the record that I just missed.

MR. GILMER: Yeah.

THE COURT: So, okay. That's helpful.

MR. GILMER: No photographs taken for safety and security issues by either side when we were there, Your Honor, but everything as was seen by either expert will be present and available at any future meetings, if necessary.

THE COURT: Okay. So I don't understand -- I didn't understand that last part. So did either -- did any of the experts actually see the equipment itself or did they see the list of the equipment?

MR. GILMER: Some equipment and some lists. If the equipment was present, it was there. If the -- if the equipment was not yet obtained, then there was a list indicating what the equipment would be.

THE COURT: Okay. Because it's not clear to me, for example, when Dr. Buffington did his site visit, what equipment was there. So there's reference to catheters and needles and things, which are all things that are relevant to his expertise. I don't know if he saw that.

MR. GILMER: Certainly.

THE COURT: Did he see that?

MR. GILMER: I believe he saw some of that and, that's actually some of my outline to go with him today, through.

THE COURT: Okay. So -- because partly, Mr. Gilmer,

it's hard for me to evaluate his testimony if I don't know what he saw. So when you go through that, if you and Dr. Buffington can lay out clearly what you saw that's in the protocol, but also what you didn't see, because there are things in the protocol that Dr. Buffington may not have seen.

MR. GILMER: Yes.

THE COURT: And since he's talked about different procedures and things, I want to make sure that he's talking about things that he may have seen or not seen that were there when he was present. So if we could just be clear about that, that would be helpful.

MR. GILMER: Certainly, Your Honor. And a little bit more helpful clarification on that. As we went through the site inspection, we had Dr. Heath's site inspection report. So we were trying do an apples-to-apples comparison so anything that Dr. Heath would have observed and referenced in his site inspection would have been something that Dr. Buffington had see.

THE COURT: Okay. That makes sense.

MR. ANTHONY: Your Honor, just to -- I heard a mention to a list of equipment. I just wanted to say for the record that the list of equipment that we have that was still outstanding was from August 29th of this year. And so to the extent we're talking about a new or different list or what has come in since then, we do not have any discovery of a new list.

And so --

MR. GILMER: The list of equipment I was referring to, Your Honor, is the list that's -- that's contained in the unredacted portion of the protocol, which would be 501.

THE COURT: Okay.

Now, I think Dr. Buffington had made a reference to there being a camera added, and I'm not sure if that actually has been something that's been changed about the room. That's technically not part of the list. I think it's more about the setup of the room, but it would be helpful to the extent that that's added to the room --

MR. GILMER: Yes.

THE COURT: -- Mr. Gilmer, if that could also be part of the record at some point. Again, I'm not saying that --

MR. GILMER: Certainly.

THE COURT: -- at this point I'm not ruling one way or another whether or not it has to be added. But if -- if at some point it is added, I do think it's always important, as Mr. Anthony was saying, and you all have been doing it, just to keep the record updated.

MR. GILMER: Yes, absolutely, Your Honor. And I believe Dr. -- I mean, the testimony -- I believe he said he recommended, perhaps, adding a camera. I -- I am unaware that a camera has yet -- whether or not that has been added and whether or not a decision has been made on that.

THE COURT: Okay.

MR. GILMER: But we will certainly update the Court to that extent, absolutely. Thank you.

THE COURT: Perfect. Thank you.

Go ahead.

MR. GILMER: Ready to go?

THE COURT: Yes.

MR. GILMER: Sorry. Just wanted to make sure there was no other questions first.

THE COURT: Yeah. No. Thank you.

(Defense counsel conferring.)

CONTINUED DIRECT EXAMINATION OF DANIEL BUFFINGTON

BY MR. GILMER:

Q. Dr. Buffington, I think the Court already said this, but you remember that you're still under oath?

A. Yes, sir.

Q. And just like we came back from lunch yesterday, I'm just going to -- for the record, we did not discuss your testimony in any way between yesterday and today. Is that correct?

A. That is correct.

Q. I want to go back to the site inspection, and the judge was asking you some very good questions.

Do you recall specific supplies that you observed while we were at the site inspection?

A. Yes, sir.

Q. And can you state what those supplies were for the Court.

A. So in the execution chamber room itself, I saw the emergency response supplies, the AED, which is the automatic defibrillator. There were multiple supply drawers, like -- like you would think tool cabinets. It's common in healthcare settings. Opened each drawer and saw supplies from devices that would be used for intubation, for airway maintenance, IVs, skin prep, medications that would be used for advanced life care support in the event that there was a resuscitation.

The straps that are used to secure the inmate, it was provided to us where those on the body are positioned that allow access for the medical staff's support and access. I measured where the bed lays from the view of the medication administration room. And the window is 16 by 27 high, 16 wide, and the bed is directly on the other side of that window and about 16 inches off the wall. The bed appears to be at best guesstimate a 15 to 20, maybe 25 percent angle, so the inmate is not laying flat. They're at a minor tilt, just like in many procedures.

And from the window, I would was able to see in the medication administration room clearly, the full span that each of the appendix or appendixes of the individual, both arms, both legs, head, and chest.

The -- there was an individual laying on the table at the time as an example so that it would be a realistic view of

what a human body would be.

In the medication administration room, I saw the supplies that are where the IV bags are positioned to hold for gravity purposes at a height where the IV fluid bags hang down and the tubing go into the holes that go through the wall. If I remember the --

THE COURT: So I'm sorry, Dr. Buffington. Was the tubing there?

THE WITNESS: Yes, it was hooked up to IV bags.

THE COURT: Oh, so you saw -- you could see the flow?

THE WITNESS: Yes.

THE COURT: Okay. So one of the questions I have for you is just about the -- you talked about the speed of the flow in this case, and it being pushed through the bags. So I'm trying -- I'm trying to figure out how if -- if you have the bag and it's sort of both dripping and you're pushing, I'm just trying to visualize how that works. Because if it's dripping, then I'm not sure how you're pushing exactly.

THE WITNESS: No, it's a great -- great question. In a clinical practice setting, it's not uncommon to have an IV bag of fluid, typically a one liter bag, that's hanging providing a gravity drip rate. That's a pretty standard rate. Then in addition to that, below the IV bag there would be an IV lock, a stopcocker, a lock --

THE COURT: Right.

THE WITNESS: -- where you can then insert a needle. And that's where the syringe is. The order that they're provided in the protocol would then be attached with the needle into that rubber-tipped stopcock and then pushed by that into the IV flow line. So the pressure and the speed with which the syringe is compressed is going to move the downstream fluid at that rate.

THE COURT: I see.

And how far is it from the tube from where the workroom or the medi -- the medication room is to where the bed is?

THE WITNESS: Bed or bag?

THE COURT: Well -- well, I assume the bed because I assume the push is going into the tube and then that tube is connected to the --

THE WITNESS: Yes.

THE COURT: Okay. How long of a distance is that from where the -- the drug administrator's actually pushing in the plunger, or whatever you call of it, of the syringe to the IV? How long is that?

THE WITNESS: So approximately four to five feet. So it's just at the --

THE COURT: Approximately, I'm sorry?

THE WITNESS: Four to five feet.

THE COURT: Okay.

THE WITNESS: So it's very thin tubing, typical in

clinical practice settings, and a typical apparatus setup that might be at a bedside or might be at a table side in an operating room. The tube comes down just before the wall is -- between the bag and the wall is where that stopcock access point is. And then from that point, the patient is only 16 inches on the other side until you would reach either arm that's extended out. I would add another three feet, three to four feet.

THE COURT: So the bed is very close to the wall?

THE WITNESS: The head is almost touching the wall.

THE COURT: Okay. That's helpful. Okay.

Is there anything else that you wanted to describe?

THE WITNESS: Yes. So I was describing the interior of the room and you spoke of supplies. The room is very organized and has an area where refrigerated meds versus room temperature meds are stored. Both of those are secured. I asked to be able to see the contents of what's in the spaces.

In addition, there were tubs that are designated for an organized fashion for what's delivered in each -- each fashion. The protocol itself is available on the walls on multiple sides of the room, so it's easy access, so someone doesn't have to be flipping through pages or a document.

And included in that room were all of the standard IV preparation and syringes that would be needed to draw up the medication for administration.

THE COURT: Okay. Thank you.

BY MR. GILMER:

Q. Dr. Buffington, I just wanted to clarify a couple of things that you said there. When you said that you were -- you saw the IV and the solution and the drip flow, you did not actually see an IV running. You just saw how it would go. Is that correct?

A. Correct. But just like in clinical practice settings where I'm familiar with that, you would see the flow in the same tubing. So the IV bag was hung, the IV bag had fluid, and the IV tubing had fluid. There wasn't an active gravity flow, but that's what we would use in clinical practice to watch that tubing to discern that. So it's vis -- directly visible.

THE COURT: I'm sorry. When you say that you watched the drip to discern the flow, explain to me what you mean.

THE WITNESS: Right. So IV bag, one liter of fluid.

THE COURT: Right.

THE WITNESS: The tubing connected had fluid in it as well. There was no person attached to the other end.

THE COURT: No, I understand that, but you were describing the process of looking at the IV bag in terms of the drip that helps you to gauge the flow? I'm not sure if I heard you say that.

THE WITNESS: It does. So the IV, the fluid, and what's traversing the IV tubing is how we discern the flow.

THE COURT: And that's important in terms of how quickly you -- you push through the medicine? Why do you need

to know what the flow is here?

THE WITNESS: If there's no flow, it's not going.

THE COURT: Okay. Or if it's too slow, there may be like a problem or kink or something in the tubing?

THE WITNESS: Well, the gravity flow rate is very basic to start with, but you can see a gravity flow pattern.

THE COURT: Right.

THE WITNESS: If there's no flow, you can discern that as well. So it's the phase before the push. And then after the push, it's just the thin tubing, and there would not be a concern over kinking because the distance in the wall is basic. And it's -- at the time you're hooking up to the patient.

THE COURT: Well, I mean, if -- I mean, if someone -- I mean, there are ...

If someone were to bump it or hit it or something, something could happen. I'm just saying, if there were going to be kinking, right, you would be able to see that from the flow is what I'm saying to you.

THE WITNESS: Correct.

THE COURT: Right. Because, I mean, again, obviously, there would have to be procedures in place if something were to happen in the context of this.

So you're saying that if for some reason someone bumped inadvertently one of the tubes or it got knocked to the point where there was no flow, you would actually be able to see that

even in the chamber where the drug administrator is pushing through the drugs.

THE WITNESS: Absolutely.

THE COURT: And you'd see that because of the -- of the drip?

THE WITNESS: Correct. It would stop.

THE COURT: Would you be able to feel that when you pushed it through?

THE WITNESS: You would feel resistance if there was something downstream at the needle and the vessel, you would be able to discern that it wasn't going.

THE COURT: So is that one of the things, and I think you may have mentioned this earlier, about that tells you if there's a proper placement of the -- of the needle or the IV site is you shouldn't feel resistance? Is that something that you were referencing earlier? I wasn't sure -- you had said something earlier about different signs that there wasn't proper placement.

THE WITNESS: Correct.

THE COURT: And I think you once in that testimony referenced flow. And are you saying that one of the signs that there may not be proper placement is that there's not flow and you receive resistance?

THE WITNESS: Correct.

THE COURT: Okay.

THE WITNESS: And there are multiples. There's more beyond that. But that's where the two individuals, one at the bedside and the other's in the room, are communicating over those issues.

THE COURT: Right.

Right. You're assuming they are.

THE WITNESS: Well, that's the protocol.

THE COURT: But, right, because I want to make sure that partly -- part of your testimony is based upon certain assumptions in the protocol that -- that you're not responsible for. But, for example, in terms of the communication in terms of the training the person receives in terms of their -- their expertise, you're assuming that the protocol has -- covers all of that in terms of the administration of the drugs. Because as I was considering your testimony, one of the things is that it really depends upon the proper administration of these drugs, correct?

THE WITNESS: Define "administration."

THE COURT: I mean, if they're not properly administered into the body, they're not going to work the way you say they're going to work.

THE WITNESS: Correct. And you would not see the pharmacologic effects take place.

THE COURT: Right. Exactly. Right. So I'm saying part of the mechanics of that is not something that you --

you -- you have talked about that in your site visit, which we're going to talk about today, but all of your testimony in terms of the pharmacologic effects is based upon them being properly administered to the body.

THE WITNESS: Absolutely. Just like in clinical practice.

THE COURT: Right. Okay. That's helpful. Thank you, Doctor.

Go ahead, Mr. Gilmer.

MR. GILMER: Thank you, Your Honor.

BY MR. GILMER:

Q. The second part of what I wanted to clarify, you mentioned that you saw medications that were available if needed for life support?

A. That is correct.

Q. What medications did you observe?

A. Epinephrine and Lidocaine, which are both listed in the ACLS guidelines.

Q. And where did you observe those medications, in the chamber or somewhere else?

A. In the infirmary. They were not brought to the room at that time.

Q. Were you able to -- did you have an opportunity to observe the telephones on the wall that you were informed would be the telephones that the drug administrators could use to contact the

attending physician and designated warden in the chamber?

A. Yes, as well as the audio and microphone equipment as well.

Q. Based upon the phones that you saw that would allow the drug administrators to contact the attending physician and designated director, do you share Dr. Heath's concerns that there was -- that there would be a concern in delay with communication between trying to communicate between the two rooms?

A. No, they were -- the telephone handsets were within arm's reach of the healthcare professional that would be in the room with direct access to the staff who were doing the drug administration prep.

THE COURT: But it's safe to say that -- that effective near instantaneous communication is necessary in your view?

THE WITNESS: I do think so.

THE COURT: Okay.

Well, I'm saying this, Mr. Gilmer, because I would like to confine Dr. Buffington's expert testimony to what he's an expert on.

MR. GILMER: Yes.

THE COURT: I assume he's not an expert on radio equipment or handsets. He's assuming that. But let's focus on those aspects of his testimony that are his expertise.

MR. GILMER: Thank you for that clarification, Your Honor. Of course it was something Dr. Heath referenced so that's why --

THE COURT: And for the same reason -- right, I mean, Dr. Heath is not an expert --

MR. GILMER: Understood.

THE COURT: -- in handheld technology, and I wouldn't expect Dr. Buffington to be either, right?

MR. GILMER: I will move on then, Your Honor.

THE COURT: No, that's all right. But, again, as I said it, it's helpful to outline what things that they anticipate are going to be important.

So I do think it is helpful, Dr. Buffington, for you to say that it is important and necessary. And I think you would agree with Dr. Heath about that there actually be the ability, however -- whatever it is --

THE WITNESS: Yes, sir.

THE COURT: -- for them to have that instantaneous communication back and forth.

THE WITNESS: Correct.

THE COURT: Okay.

BY MR. GILMER:

Q. Have you been able to observe execution chambers in other jurisdictions?

A. Yes, I have toured others.

Q. How many?

A. I think this makes three.

Q. Can you compare -- were those lethal injection chambers or a

different type of chamber?

A. Lethal injection.

Q. Can you -- in those other jurisdictions that you observed, were -- was there also a physical separation between where the drug administrators would push the medications and where the execution chamber was?

A. In every one I've seen, nearly identical setup.

Q. You said "nearly identical setup." So maybe you -- you've anticipated my next question. I was going to ask how would Nevada's chamber compare to those other chambers that you saw in that regard.

A. In recollection, a little more spacious in both rooms in terms of ability to navigate around either the individual in the chamber or the other staff. Medication in room -- administration room seemed larger. Clear view of the protocol at all times from wherever you're standing in the room. And from my recollection, better lighting, which I think is important as well. They were both very -- both rooms brightly lit.

Q. And I recognize that you're not an anesthesiologist so, therefore, you're looking at this from a clinical pharmacology perspective as a -- as a PharmD. But in your opinion, do you believe NDOC has the appropriate supplies and equipment necessary in order to effectively administer the drugs?

A. I do.

MR. LEVENSON: Objection, Your Honor -- I'm sorry. Are you done with your question?

MR. GILMER: Yeah.

MR. LEVENSON: Objection, Your Honor. 702, beyond his expertise.

THE COURT: Well, what part is beyond his expertise? Because that's the -- administration of drugs is directly within his expertise. So I'm trying to figure out which aspect of what Mr. Gilmer said.

MR. LEVENSON: I think he asked medical equipment, and I think that's beyond his expertise.

THE COURT: Ah, I don't know that that's -- that's not my view of his -- of his testimony. So overruled.

BY MR. GILMER:

Q. You can answer the question, Dr. Buffington. If you need me to repeat it, I will.

A. I do need you to repeat it.

Q. The question was -- hopefully I'll repeat it the same way I read it -- said it the first time: As a clinical pharmacologist, as a PharmD, based upon your training and experience, do you believe that NDOC has the appropriate supplies and equipment necessary to properly administer medications needed in this protocol?

A. Yes, and configuration of the rooms.

Q. Same question, but with regard to the medications in the

lethal injection protocol. Do you believe that they have the necessary supplies and equipment should a resuscitation be necessary?

A. Yes. In addition, we were provided a tour of the pathway that the -- if EMS was needed to be called, their access to the room and the pathway to an ambulance.

Q. And were you also able to see the pathway to the infirmary if -- if the person had to go to the infirmary prior to going to the EMS route?

A. Yes, very close.

Q. When you say "very close," do you have a recollection as to how long it would take in seconds or minutes to get there?

A. A minute to two.

Q. And when you say "a minute to two," are you basing that on the normal walk that it took or what it would be in an emergent circumstance if people were moving quicker?

A. A normal walk.

Q. Do you believe that NDOC has the appropriate medications to treat side effects of opioids if needed in -- for a resuscitation attempt or otherwise?

A. Yes. Separate from the medication administration room, but in the actual chamber in one of the medical supply carts were multiple doses of Narcan. The medication name is Naloxone. And it is an intranasal-delivered antidote for opioids regardless of which opiate.

Q. Are there any drugs that NDOC would need with regard to treating the effects of ketamine, if necessary?

A. No, we don't have a direct antidote for that.

THE COURT: So what happens if it's not properly administered and it's sort of partially administered --

THE WITNESS: Yes, Your Honor. You -- you provide cardiorespiratory support and then the medication effects wear off. So you sustain the patient in the interim.

THE COURT: Okay.

And you said you saw the -- when you said the equipment for monitoring, was there equipment to monitor heart rate and breathing there?

THE WITNESS: Yes.

THE COURT: Okay. Because -- and in the protocol -- well, we can get into that, but -- so that -- you would use that to help you in sort of just gauging the patient and where they were?

THE WITNESS: Correct, in any event, the protocol or the resuscitative measures.

THE COURT: Okay. All right. Perfect. Thank you.

Go ahead.

BY MR. GILMER:

Q. Are there any drugs that NDOC would need in order to counteract the effects of cisatracurium if that was necessary?

A. No, same answer. There's really not a defined antidote and

its effects will -- you do the same thing. You provide supportive care and EMS transport, rapid transport, if needed, while the effects wear off.

Q. And you saw the appropriate items for support and care that you're referring to there?

A. Yes.

Q. And what are those items?

A. Oxygen, devices for ensuring a patent airway, the medications, and the ability to call for rapid transport. It's my understanding that the ambulance would be on the property at the time, so it's direct access through a very wide, open hallway.

Q. And if -- same question with regard to potasium. Are there any particular drugs that NDOC would need for potassium or is it also supplies and support?

A. Correct, the latter.

Q. Those are -- done with the site inspection questions. There's just a couple clarifying -- or a couple points yesterday that I missed, and I apologize for that. But just a few more questions and we should be done. And, again, I said "few."

You were asked at one point yesterday if -- if you had testified with regard to other protocols. You remember that testimony?

A. Yes, other lethal injection protocols.

Q. I believe it -- I think the judge asked that question and

you said it was always on behalf of the State in those circumstances, or the Government?

A. On the evaluation of the pharmacologic properties of the agents in a lethal injection, yes.

Q. Have you ever testified on behalf of an inmate facing the death penalty as it -- as it relates to pharmacologic properties in a criminal setting?

A. Yes, numerous times.

Q. And what was your role in those -- in those cases?

A. Typically, for the Public Defender, Federal Public Defender's Office, it would be in the mitigation phase. So in a case where the penalty may include death penalty, my understanding is there's a very defined aggravating and mitigating factor review. And I've testify -- testified in the mitigating factors regarding substance -- history of substance abuse, mental health, and medications that would have been involved and/or impairment or intoxication from something --

(Court reporter clarification.)

THE WITNESS: Impairment or intoxication that was relevant to that case. So numerous times.

BY MR. GILMER:

Q. Dr. Buffington, I think we established you were here for Dr. Heath's testimony?

A. Correct.

Q. And I'm going to -- this was admitted during his testimony,

if it can be published. I'm referring to Exhibit 525. I'm sorry, not 525. I apologize. I gave you the wrong number.

524.

A. I don't see anything yet.

THE COURT: You should see it to your right, too, as well.

THE WITNESS: I see it now.

MR. GILMER: And if we need to find the testimony in -- from Dr. Heath, we can.

BY MR. GILMER:

Q. My -- the question I have and the reason why I pulled this article up is I'm hoping it may refresh the discussion. This was an article, and in my conversation with Dr. Heath during his testimony on this article, he indicated that it wasn't surprising that the person would have no recall because he had -- the person had been given a benzodiazapine in addition. Do you recall that?

A. Right. The benzodiazapine is a central nervous system depressant.

Q. And then he later on said that there was an amnesic drug. Do you recall that testimony?

A. Well, amnesia is a property associated with those, yes.

Q. So my question to you, from a pharmacologic perspective, my understanding is that ketamine is also an amnesic drug?

A. It's a dissociative analgesic, but one of its pharmacologic

properties is when and during anesthesia individuals have an amnesic effect, meaning they don't recall what happened when under.

Q. So from a pharmacological perspective, would you expect the ketamine to have the same reaction? To the extent Dr. Heath was saying that it was because of the benzodiazapine that they didn't have any recall --

A. Yes.

Q. -- would ketamine have that same effect?

A. Correct. None of the patients in this article had recall or -- or recognition of what happened during the procedure. And I think this is a takeaway we've known for a long time. You don't want to use fentanyl alone for longer procedures. This was cardiac procedures. And you optimally use an opioid, like fentanyl, with another agent to augment and get synergy. So it's what we already know.

THE COURT: And I'm sorry. You don't want to use fentanyl for longer procedures why?

THE WITNESS: Increased opiate burden and potential for the respiratory depression. So at the doses that you would use for anesthesia, you don't get to abate the respiratory depression efforts. So during a procedure, if your goal is to sustain the individual, fentanyl for long procedures and alone is likely to not provide you that long duration. So these are -- some of these are hours for procedures.

The long duration of anesthesia when used alone and added to this and many other articles show that when you use fentanyl with another CNS depressant, you have an enhanced anesthesia with amnesia, meaning no recall.

THE COURT: Okay. Thank you.

BY MR. GILMER:

Q. And at the risk of jinxing myself, I believe this is my last question.

Can you explain, if somebody does not have recall of an event, does that mean that they also have -- that they cannot recall any pain associated with the event?

MR. LEVENSON: Objection, that's speculation.

THE COURT: I'm sorry, Mr. Gilmer. I'm trying to think about your question. If someone doesn't have amnesia -- if someone has an amnesiac -- is having an amnesic effect of the medication, are you saying would that necessarily mean they couldn't recall the pain? Because I assume that if they don't remember, then they wouldn't remember. I'm not sure if you're asking if they don't remember twice.

So I'm not sure, Mr. Levenson, what the objection is. I -- I think what Dr. Buffington has said is they don't remember. So I would assume whatever happens during that period of time means that they don't remember what happened during that period of time. Potentially, even if they had pain, they might remember that they had it, but that doesn't mean they didn't

have the pain, correct?

THE WITNESS: Well -- well, pain is a perception. It doesn't mean they didn't have a noxious stimuli and the body can react to that, but pain is --

THE COURT: Well, let me ask you a question. Let me break that down a little bit.

So ketamine, potentially -- or ketamine, potentially, could have a, sort of, euphoric dissociative effect, right?

THE WITNESS: That's not what it's being used for.

THE COURT: That's not --

THE WITNESS: When you say "dissociative," do you mean a dysphoric effect?

THE COURT: Well, so in terms of this idea about euphoria that sometimes people experience, right, from using one or more of these drugs --

THE WITNESS: That's correct.

THE COURT: -- for example. If someone had that sense of euphoria, right, they may not remember they had the sense of euphoria -- euphoria, even though they had it because of the amnesic effect of the drug, right?

THE WITNESS: They may have it while it's administered before they drop to the depths of sedation, so that does precede it.

THE COURT: I guess what I'm saying to you is this. If they experienced euphoria, right, before they were completely,

sort of, sedated or completely under, given the amnesic effect of the drug, they may not remember the euphoria even though they had it before they completely went under, right?

THE WITNESS: It's a great question because there are different types of amnesia and that anterior grade and retrograde, those are all elements. You are absolutely correct.

THE COURT: Okay. But there might be other signs of other -- well, we'll get to that. Okay. That helps to explain to me the issue of the amnesic effect.

But go ahead, Mr. Gilmer. I don't know if you had a different question.

MR. GILMER: Thank you, Your Honor. Well, I think that was helpful to help me, hopefully, ask a better last question.

THE COURT: Because I understood him to already answer your question. When the person's completely under in terms of anesthesia, they're not going to remember what happened.

MR. GILMER: Sure.

THE COURT: Including whether it was euphoria, pain, whatever, they won't remember that. So I don't know that you need to answer that question -- ask that question, in part, because I understood that to be his testimony.

MR. GILMER: Okay.

THE WITNESS: You're correct, Your Honor.

THE COURT: All right.

BY MR. GILMER:

Q. And is it the amnesic effect that drugs provide that allow surgeries to occur every day in this country?

A. It is one of the key premises for surgeries when a painful process is involved with the surgery or procedure.

MR. GILMER: Dr. Buffington, thank you for your time. I have no further questions.

THE COURT: Thank you.

MR. LEVENSON: May I have just a moment, Your Honor?

THE COURT: Sure.

You need some water, Doctor? I think there's some water. Do we have water up there?

THE WITNESS: I've got a bottle. Thanks.

THE COURT: Okay.

MR. LEVENSON: Your Honor, may I approach the witness with a binder?

THE COURT: Do we already have a binder up here?

MR. LEVENSON: He doesn't have this binder.

THE COURT: I'll tell you what, let's see. And I'm sorry, why isn't that binder up here already? Your binders aren't up here?

(Court reporter interruption.)

THE COURT: Okay. I'm trying to minimize the back and forth, Mr. Levenson, so ...

MR. LEVENSON: So these are the materials that we would possibly use for impeachment. So we didn't feel it was

necessary to put this up there until cross-examination.

THE COURT: Ah. Okay. All right. Well --

MR. LEVENSON: It contains all of the material.

THE COURT: What's that?

MR. LEVENSON: It contains all of the material we would use.

THE COURT: So why don't we do this. Why don't you put it on the end of the table there.

Ms. Lenzi, can you take it from there to the witness? Blanca?

Just leave it. There we go.

THE COURT: Thank you. All right.

CROSS-EXAMINATION OF DANIEL BUFFINGTON, PHARMD

BY MR. LEVENSON:

Q. Dr. Buffington, please don't look into the binder unless I direct you to a particular exhibit. So if you could close the binder.

A. I don't see anything. There is a cover page.

Q. Okay.

THE COURT: And there's too much -- and we don't have enough time to go through that whole thing right now anyway.

So go ahead, Mr. Levenson.

MR. LEVENSON: Thank you.

BY MR. LEVENSON:

Q. Just a couple of questions on the site inspection.

Dr. Buffington, did you say you were permitted to see the straps that secured the inmate?

A. I don't recall the strap. We were shown where the straps are secured on the body.

Q. So you didn't see the straps.

A. Correct.

Q. You stated that you were able to look into the execution room -- I'm sorry, looking into the drug administrator's room from the execution room. Is that correct? Is that your testimony?

A. That is correct.

Q. And were the lights dimmed in the drug administrator's room as they would be during an execution?

A. Both.

Q. And the purpose, you understand, for the lights dimming is that no one can see into the drug administrator's room from the -- from the audience or the execution chamber, correct?

A. If the lights are down in the med room to a certain level.

Q. And it's your testimony that even with the lights down that you were able to see into the drug administrator's room?

A. No, I didn't say that. But nor would it be necessary. The individuals have already done their preparation and setup --

THE COURT: So, Mr. -- Dr. Buffington, it will go a lot longer if you don't try to limit your answers. Trust me, if there's additional information that needs to be added, I'm sure

Mr. Gilmer will make sure you have an opportunity to do that.

THE WITNESS: Yes, Your Honor.

THE COURT: But I'm just saying that to say, for example, nor would it be necessary, we don't need you to add that part until you get asked about it because, otherwise, the cross will take a much longer period of time. But if we need you to clarify an answer, as I said, I will ask you or Mr. Gilmer will ask you, and you'll have an opportunity to do that. Okay?

THE WITNESS: Yes, sir.

THE COURT: All right. Thank you.

Go ahead, Mr. Levenson.

BY MR. LEVENSON:

Q. Dr. Buffington, you mentioned something about an ambulance, that you understood an ambulance would be on call. Can you tell us who gave you that information? Because, as I understand it, it's not in the protocol.

A. Director Gittere.

Q. And what information did Director Gittere give you about the ambulance?

MR. GILMER: Objection, Your Honor, hearsay.

THE COURT: Overruled.

THE WITNESS: That it would be present and then also provided a tour for the group to the pathway to access where the ambulance would be.

BY MR. LEVENSON:

Q. So the information you got from Director -- Deputy Director Gittere was that there would be an ambulance on site waiting.

A. Correct.

Q. Dr. Buffington, have you ever attended an execution before?

A. No, sir.

Q. You testified yesterday that your rate was $400 an hour. Is that correct?

A. Right, consistent with our clinical rates.

Q. And how much have you billed NDOC so far for your time?

A. I don't know. I didn't review an invoice before coming.

Q. Well, can you give us an approximation of how many hours you have spent on this case so far?

A. No, sir, not without reviewing the invoice.

THE COURT: Well, I mean, it's not 1,000 hours. I mean, give us a rough estimate. It would be -- is it under 100 or over a 100?

THE WITNESS: Honestly, it could be approaching.

THE COURT: Right.

THE WITNESS: Over the months.

THE COURT: It could be approaching a 100.

THE WITNESS: That would be my best guess.

THE COURT: Right. But it's probably more than 20, right?

THE WITNESS: No question.

THE COURT: And probably more than 40?

THE WITNESS: No question.

THE COURT: All right. So that's -- I know you're used to being precise in your profession, but in this case you can allow for, and I'll allow for, a little bit of estimation when it comes to things like that.

THE WITNESS: Okay.

THE COURT: Not with respect to drugs, of course, but with respect to the rates and things like that, I will -- I will allow you to be able to estimate as best you can.

Go ahead, Mr. Levenson.

BY MR. LEVENSON:

Q. Dr. Buffington, you don't have a doctorate in pharmacology, correct?

A. A doctor of pharmacy, which the core curriculum is pharmacology.

Q. But you don't have -- again, the question is, do you have a doctorate in pharmacology?

A. No, sir. I have stated my doctorate is in --

(Court Reporter clarification.)

THE WITNESS: As I've stated, my doctorate is the doctor of pharmacy referred to as a PharmD.

BY MR. LEVENSON:

Q. And there is a different doctorate of pharmacology degree that you can earn, correct?

A. Yes, that would be a basic science degree, not a clinical.

Q. In the State of Florida, you are licensed as a pharmacist, correct?

A. That is correct.

Q. You are not board certified by the American Board of Clinical Pharmacology?

A. No, sir.

Q. Are you aware of the laws and regulations of the State of Florida that apply to pharmacists?

A. Very much so, and I teach them.

Q. Don't those regulations state that a prescriber care plan can only be written by a licensed physician or a licensed physician assistant or a podiatric physician or a dentist. Is that correct?

A. If you're referring to 64B.16.27.830, (verbatim) that is a particular type called drug therapy management. There are multiples.

Q. Well, let's take a look at that, Dr. Buffington. Plaintiff's Exhibit 220. You can open the book.

A. Yes, sir.

Q. And you're correct. I think you're incorrect, though, in the title. It is actually called Prescriber Care Plan, Drug Therapy Management.

A. Correct.

Q. Does that sound correct to you?

A. Yes, sir. Prescriber Care Plan is the instrument or the plan for that type of service.

Q. Right. But, again, just to -- to make sure that we understand it, that can only be written by the people that I stated, correct, the doctor, physician's assistant, the podiatric physician, or the dentist, correct?

A. With the pharmacist, yes.

Q. I'm sorry. Well, let's take a look at that exact section.

THE COURT: I'm sorry. When you say "with the pharmacist," are you saying the pharmacist can write -- let me pull it back up again -- can actually write that or are you saying the pharmacist is the one who would actually fill the medication? Because there's a difference. Some pharmacist will fill the medication, and then there is a pharmacist writing out the prescription.

Are you saying that under this statute you believe you have the authority to write out a prescription?

THE WITNESS: You do. And, actually, this is not about dispensing. This is about patient care and -- and prescribing.

THE COURT: So you're -- you're saying that you as a -- as a PharmD have the authority, you believe, under Florida law to actually write prescriptions?

THE WITNESS: No question. In multiple places within the Pharmacy Practice Act.

THE COURT: Okay.

BY MR. LEVENSON:

Q. So let's take a look at Exhibit 220. It's a PEX 6331, and we're looking at sub 1.

Where in that sub 1 does it say it's with the pharmacist? I see the language that says dispense or executed by a pharmacist, but it didn't state that it is in conjunction -- written in conjunction with a pharmacist.

A. Did you say 220?

Q. Plaintiff's -- Plaintiff's Exhibit 220.

A. 220 is empty.

However, I am very familiar with the --

Q. I'll give you my copy.

THE COURT: Well, okay. What -- so, first of all, I need a copy, because I don't -- hold on a second. Blanca. Blanca.

MR. LEVENSON: We gave --

THE COURT: So where -- where are these? Because I'm trying to find what you're looking at. I don't have it either, I don't think.

MR. LEVENSON: We -- we gave, Your Honor --

(Court conferring with courtroom administrator.)

THE COURT: Okay.

Why -- why -- you can put it on the ELMO, actually.

(Court conferring with the courtroom administrator.)

THE COURT: Mr. Levenson, you can use the ELMO up here.

That way --

MR. LEVENSON: I can bring it up here. I'll -- I can bring it up with my computer.

THE COURT: Okay. Well, I just wanted to give you the option.

MR. LEVENSON: Okay.

THE COURT: Because, for some reason -- you did provide it to us -- we couldn't upload it. So I need to see it as well, so ...

MR. LEVENSON: Okay. Let me ...

BY MR. LEVENSON:

Q. So we have 220 up here now and we're looking at sub 1.

And my question, Dr. Buffington, in -- in sub 1, where does it say it's written in conjunction with the pharmacist? I see it says dispense or executed by the pharmacist.

A. Right. So you can't -- it would have to have the involvement of the pharmacist to discern if that individual is in a position to do those services and accepts the collaboration with the design.

Q. I'm sorry --

A. It's a delegation of authority.

Q. I don't see that written in this -- in -- in this section at all.

A. Because it's inherent. You can't force someone to do a service.

THE COURT: I'm sorry. So let me step back for a second. You had said that there are multiple references in the statutes to PharmD individuals like yourself being able to prescribe medication.

THE WITNESS: Yes, sir.

THE COURT: So can you -- can you identify one where it specifically says that just so we don't have to go back and forth.

THE WITNESS: Sure. This one. If you scroll down --

THE COURT: Okay.

THE WITNESS: -- 2 -- I think it's 2(c) which is hidden -- 3(c). "The conditions under which the duly licensed practitioner authorizes the execution of subsequent orders concerning drug therapy for the patient." And those are in --

THE COURT: Okay. I'm sorry. Are you looking at 2 --

THE WITNESS: 3(c).

THE COURT: 3, I'm sorry.

MR. GILMER: I don't have that page.

(Court reporter clarification.)

MR. GILMER: Oh, 3(c). I'm sorry. I found it. I apologize.

BY MR. LEVENSON:

Q. And so, Dr. Buffington, under 3(c), again, it states that it's with "the duly licensed practitioner authorizes the execution." Again, I don't -- I don't see where you're saying

that that's in conjunction written by a pharmacist.

A. No, I'm saying that the pharmacy -- this is a collaborative practice tool, meaning a prescriber may write the order and the guidelines. Some may say limited to psychiatric medications. Others may say which diverse categories. So it's written by, but it is an instrument that is a delegation of authority.

Q. Would you agree with me that the wording of the statute is -- is fairly clear, though, who underwrites the prescriber plan?

THE COURT: Why don't we, Mr. Levenson, move on from here.

MR. LEVENSON: Okay.

BY MR. LEVENSON:

Q. Are you familiar with the Florida law that establishes a formulary of medicinal drugs, products, and dispensing procedures that can be used by a pharmacist when ordering and dispensing drug products to the public?

A. I -- I am and that's another category of prescriptive authority.

Q. And looking at Exhibit 221, which I have pulled up.

Are you familiar with the Florida statute 465.186?

A. Yes.

Q. And under sub (a) through (g), none of the drugs in NDOC's protocol are on that list, are they?

A. Correct. That's not what this was intended for.

Q. And those drugs include things like over-the-counter drugs, analgesic -- I'm sorry, antihistamines, fluorides, over-the-counter medications, correct?

A. Correct.

Q. Now, I want to talk to you about the implementing regulations under the statute. Are you aware of those regulations?

A. Yes.

Q. Under those regulations, none of the drugs in NDOC's protocol are contained in the formulary that may be ordered and dispensed by a pharmacist in Florida. Is that correct?

A. Correct. This is merely one section of prescriptive authority, not the encompassing.

Q. And under the regulations, pharmacists are not permitted to order and dispense injectable products. Is that correct?

A. Correct, under this particular element.

Q. Yeah. I guess I'm confused. Can you tell us the specific statute or regulation that you are referring to that is different than the ones that we are looking at now?

A. Sure. 465.003 --

Q. I'm sorry. I'm sorry. Could you slow down?

A. Yes. 465.003. I think it's paren 13 is the category that describes the broad nature and scope of pharmacist activities. And it includes administration of medications there. We just changed that to enhance it last year, so I'm very familiar with

that. Did you provide that?

Q. Are you asking me a question, Dr. Buffington?

A. Yes. Did you provide -- I'm looking for it in here.

Q. No. No, I think I'm doing the questioning right now. But we're going to look for it. Don't worry.

A. Sure.

Q. If you ordered or dispensed any of the drugs in NDOC's execution protocol -- protocol without a physician, would you be guilty of a first degree misdemeanor in Florida?

A. Depends on if it's on an inpatient protocol. Hospital-based protocols provide even further delegation of authority, but under -- without it being in a hospital base, I think the answer would be yes.

Q. Okay.

MR. LEVENSON: Just a moment, Your Honor.

(Plaintiff's counsel conferring.)

MR. LEVENSON: So if we could bring up 463.003(13).

BY MR. LEVENSON:

Q. And, Dr. Buffington, I believe it --

(Court reporter interruption.)

MR. LEVENSON: I apologize.

BY MR. LEVENSON:

Q. Doesn't that section state that, "However, nothing in this subsection may be interpreted to permit an alteration of a prescriber's," which we just spoke about, "directions, the

diagnosis or treatment of any disease, the initiation of any drug therapy, the practice of medicine, or the practice of osteopathic medicine unless otherwise permitted by law"?

A. Yes, that is a full reading. And -- and that is the pathway as well as the introductory statements in 465 that describe the depth and breadth of pharmacist -- pharmacy services.

Q. So, Dr. Buffington, you are not permitted to prescribe an opiate narcotic, correct?

A. On an inpatient basis. It would be to order, and orders are different than prescriptions.

(Plaintiff's counsel conferring.)

BY MR. LEVENSON:

Q. And you stated in your deposition testimony that you administer drugs through an IV line to patients, correct?

A. Numerous times.

Q. And do you do that in a hospital setting?

A. For IVs it's been inpatient or outpatient. It's very common for pharmacy services to include IV infusion services.

Q. In -- in a hospital?

A. Even in an outpatient basis, even in a speciality pharmacy basis.

Q. And, again, when we're talking about in a hospital setting, are we talking about an operating room or are you talking about something else?

A. It could be either. Operating room or nonoperating room.

Q. So you personally have administered drugs through an IV line to a patient in a surgery center in a hospital.

A. I don't remember pushing in an OR, but there for consultative basis. But, yes, in a hospital, absolutely.

Q. You have?

A. Absolutely.

Q. Again, because you said you -- you did not remember pushing. So what -- what is the distinction for you?

A. The actual -- that's the administration.

Q. And you don't remember doing the actual administration.

A. In an OR, I don't recall.

Q. Okay.

And the types of drugs that you administer through an IV line on a normal basis are things like antibiotics?

A. Correct.

Q. Steroids?

A. Correct.

Q. Potassium supplements?

A. Have.

Q. You have never entered -- I'm sorry. You've never induced general anesthesia, correct?

A. No, not independent. Nor have I ever been asked to.

Q. And you have never maintained anesthesia with a patient.

A. Not as the independent, no. Only there as a consultant, a specialist consultant.

Q. You've never personally administered ketamine through an IV line.

A. That is correct.

Q. You've never administered fentanyl through an IV line.

A. Correct. Present, but no.

Q. I'm sorry?

A. Present, but not the one directly administering.

Q. You've never personally administered alfentanil through an IV line.

A. That is correct.

Q. And the same question with cisatracurium.

A. That is correct.

Q. You've never prescribed ketamine before.

A. Correct.

Q. You've never prescribed fentanyl before.

A. (Pause.) As prescription, that is correct.

Q. You've never prescribed alfentanil before.

A. Correct.

Q. You were first contacted by NDOC on, I believe you said in your deposition testimony, either May 12th or May 14th, correct?

A. Somewhere in that range, yes, sir.

Q. And you received the NDOC protocol to review on June 7th. Does that sound familiar?

A. I think it was after hours given the time difference on the 7th and had a phone call with NDOC representatives on the 8th.

Q. On the 8th.

THE COURT: Hold on a second, Mr. Levenson.

MR. LEVENSON: I'm sorry?

THE COURT: Just hold on one moment.

Did you provide any information to NDOC before the protocol was finalized?

THE WITNESS: No, sir.

(Plaintiff's counsel conferring.)

THE COURT: So you didn't have any role, I just want to be clear, Dr. Buffington, or you weren't consulted as related to the drafting or the finalization of the drug protocol?

THE WITNESS: None at all.

THE COURT: Okay.

BY MR. LEVENSON:

Q. You were then asked to opine about the protocol for the June 8th meeting, correct?

A. To answer questions during that phone call about the pharmacologic properties and the protocol design, yes.

Q. And that June phone call with Director -- I'm sorry. And -- I'll lay the foundation.

Who was on that phone call on June 8th?

A. My recollection was Mr. Gilmer and Director Daniels.

Q. And that phone call only lasted one hour, correct?

A. I think I approximated that in the depo.

Q. And so if your billing statement states one hour, that would

be fairly accurate?

A. I think that's what we used as a reference point.

Q. And you have no idea who selected the drugs for the NDOC protocol.

A. That is correct.

Q. You have no idea who developed the sequencing of the drugs.

A. That is correct.

Q. You have no idea who developed the timing of the drugs in the protocol.

A. That is correct.

Q. And you don't know who came up with the dosages in the protocol.

A. That is correct.

Q. Did you ask who created any of these things in the protocol?

A. No, sir.

Q. You didn't inquire whether a doctor created the protocol.

A. No, I was answering questions about the medications.

Q. Did you offer any changes to the protocol?

A. I do not recall any suggested changes.

Q. What experience do you have with respect to 1,000 milligrams of ketamine, which is the dosage in the protocol?

A. Yes. So familiarity with the, as we discussed already in testimony, with the pharmacologic properties and dose dependency. There was a discussion of a reported case of, I think, 950 milligrams as a case study in the literature. So

it's familiarity with the product's pharmacologic properties was the basis for that.

Q. So, again, what about 1,000 milligrams of ketamine, the specific dose of 1,000 milligrams of ketamine, have you ever -- are you aware of at any point where someone was intentionally administered 1,000 milligrams of ketamine?

A. I think it was the same last answer. The pharmacologic properties of the product, not 1,000. And the case study that includes --

THE COURT: So, no, but the question was I think a fairly specific one just about, you know, one, I believe, dose. I think you had given the answer yesterday about the serial doses. I'm just saying just try to confine your answer to just that portion of the question, because otherwise, again, it will take a little bit longer. I think you were answering a much broader question than what he was asking. And, again, if there's a need to elaborate, I have no doubt that Mr. Gilmer will -- will allow that.

So just try to, sort of, limit your answers to just the question he's asking, please.

THE WITNESS: Yes, sir.

THE COURT: All right.

BY MR. LEVENSON:

Q. Dr. Buffington, can't chest wall rigidity impair ventilation with fentanyl use?

A. It can.

Q. Can't rapid IV injection of fentanyl cause acute muscular rigidity?

A. It can in skeletal muscle.

Q. I'm sorry?

A. In skeletal muscle.

THE COURT: Well, help me with that. When you say "in skeletal muscle," I'm not sure what that means.

THE WITNESS: So it's not limited to just the chest.

THE COURT: Okay.

THE WITNESS: So skeletal muscles, thighs, calfs, other muscles in the body.

THE COURT: Can also be rigid?

THE WITNESS: And have rigidity as a response.

THE COURT: Okay. All right.

THE WITNESS: That abates shortly after.

THE COURT: Okay.

BY MR. LEVENSON:

Q. You testified yesterday that ketamine has no ceiling effect. Is that right?

A. I am not familiar with one.

Q. Are you aware that in his deposition Dr. Yun stated that there was a ceiling effect with regard to ketamine?

A. I would like to see the source for that. As I stated, I'm not familiar with one.

Q. Certainly. You'd like to see his testimony or his source?
A. Source.
Q. So you would disagree with his testimony that there's a ceiling effect for ketamine?
A. No, I think I stated the answer. I would like to see the source.

I stated it very clearly, I'm not familiar with one.

Q. So you don't know if there's a ceiling effect for ketamine. Is that what I understand?

MR. GILMER: Objection, Your Honor. Asked and answered.

THE COURT: Yes, he said -- he said it's his view was that there was no ceiling effect, Mr. Levenson. So let's move on.

BY MR. LEVENSON:

Q. Dr. Buffington, you're currently under contract with the Alabama Attorney General's Office to research and review the effects of nitrogen and associated drugs used in executions. Isn't that right?
A. No, that's incorrect.
Q. Can we look at Exhibit 205.

MR. GILMER: Your Honor, I understand it's cross and there's some leeway here, but this seems to be outside the scope of direct, talking about a different protocol dealing with non-medicines and dealing with a gas.

THE COURT: Overruled. I'd allow it. Goes to bias.

BY MR. LEVENSON:

Q. So looking at this, this is a November 5th, 2020, contract that was found on the Alabama state website. And it's -- that's your business, correct, Clinical Pharmacology Inc., 6285 East Fowler Avenue?

A. Correct. But your question was, am I under contract. That's since been completed and there were -- it was just answering question, but it's no longer in place.

Q. Okay. So I'll clarify. At one point you were under contract with the State of Alabama to, "Description, Research and review the effects of nitrogen and associated drugs used in execution"?

A. Correct. And that want done and completed.

Q. And that contract was for $57,000?

A. No, sir.

Q. So on the -- the third from the right, the column says the contract is for $57,000.

A. No, sir, that's what it would be authorized up to.

Q. And then how much did you actually bill then?

A. There were only a few hours of dialogue or discussion, so it would have been a fraction of that.

Q. And then were you able to advise them on nitrogen gas and associated drugs?

A. I answered the questions they asked.

Q. I'm sorry. What was the answer?
A. I answered the questions that they asked.
Q. In your C.V. under Faculty Affiliations you list 13 universities. And do you want me to pull the -- your C.V. or do you ...
A. No, sir, and it's more than that now.
Q. So maybe we should pull it up, because the -- I believe that the C.V. that you gave us is dated 2019.
A. That is correct. That was the last update. We're in the process of doing a new one.
Q. Okay. So under -- under the C.V. as it's currently -- as we currently have it, you have 13 universities under affiliations. Does that sound correct?
A. Correct. And that's what I described for the judge yesterday in terms of academic affiliations and activities with their students.
Q. And those 13 universities have pharmacy programs, correct?
A. Yes.
Q. And those 13 universities have tenured professors teaching at those pharmacy programs, correct?
A. I sure hope so.
Q. I'm sorry?
A. I sure hope so.
Q. But you are not part of that tenured faculty. Is that correct?

A. No. Nor have I ever stated that.
Q. For the majority of those affiliations you give the occasional lecture on campus?
A. As I stated yesterday, the crossbows (verbatim) would be lectures, visiting faculty activities for curriculum development, experiential training for students on clinical rotations, a wide variety.
Q. Regarding your C.V. and publications, you never authored any publications on ketamine, correct?
A. That is correct.
Q. And you've never authored any publications where the sole focus is fentanyl?
A. Correct.
Q. You've never authorized any publications on alfentanil.
A. Correct.
Q. You've never authored any publications on barbiturates.
A. Correct.
Q. You've never authored any publications on lethal injection protocols.
A. Correct.
Q. You've never authored any publications on potassium drugs.
A. Correct.
Q. You've never authored any publications on paralytic drugs.
A. Correct.
Q. And you've never done any independent research on fentanyl,

correct?

A. Yes.

Q. That's correct?

A. No, I have.

Q. Oh, you have. Okay. In your deposition testimony -- and let me just pull that up.

(Pause.)

BY MR. LEVENSON:

Q. So I have Exhibit 102 up. And I just want to move to 3152.

MR. LEVENSON: I apologize, Your Honor.

THE COURT: That's all right. Take your time.

MR. LEVENSON: First time I've done it live and not on paper.

(Pause.)

MR. LEVENSON: All right.

BY MR. LEVENSON:

Q. So looking at 3099, I'm looking at Line 15. And the question I asked was: "Have you done any independent research on fentanyl?" And you replied: "No, sir."

Was that incorrect?

A. I would say the clarification would be not as the direct focus of the research, but I know in ziconotide clinical research trials, fentanyl was an element of the study design. In the GW Pharma clinical trial that was looking at THC for reducing opiate burden, there were patients who were receiving

it. So it's an element of, but not the direct focus of.

Q. Is there a reason why you didn't give that answer in the deposition?

A. I may have just interpreted it if you were saying direct research focussed on, but I'm acknowledging that now. It's not a direct protocol solely focussed on fentanyl.

Q. Okay. And what about alfentanil, have you done any independent research on alfentanil?

A. No.

Q. And paralytic agents?

A. No.

Q. Is it your opinion that pentobarbital has been demonstrated repeatedly as an effective or successful drug in the execution context?

MR. GILMER: Objection, Your Honor, and perhaps a clarification. We did not address any alternatives during Dr. Buffington's testimony nor did either of their experts give any discussion of alternatives during their testimony. So I believe it's outside the scope of the cross and no reason to get into that at this point in time. There's no evidence of that being provided in their case-in-chief.

MR. LEVENSON: Well, Your Honor, we're certainly willing to -- we'd like to address it now, but we're willing to call Dr. Buffington as our witness after to raise this issue on direct, but it would seem easier to do it now.

THE COURT: Was he asked this question at his deposition?

MR. LEVENSON: Yes.

THE COURT: Okay. So you talked about alternatives in his deposition?

MR. LEVENSON: Yes.

THE COURT: Okay.

Mr. Gilmer?

I mean, alternative is an issue in this case, obviously, and he's asked about. I initially had thought you had said that you didn't know that he had been asked these questions --

MR. GILMER: No, what I said -- and if I misspoke, I apologize. What I said was during their case-in-chief in this case with their experts, they did not address any alternatives pertaining to pentobarbital during their case-in-chief in their experts.

THE COURT: Oh, okay.

MR. GILMER: Yes, it was probably asked during the depositions, but at that point in time we were still in the discovery phase. The point is, they were not asked, their experts, during the case-in-chief here. And, therefore, I did not ask Dr. Buffington about it during my direct because they have not offered any evidence of it so far in their case-in-chief.

So, yes, it may be in his deposition, but that was obviously at a time when we were still doing discovery. So I don't think that that changes the position with my objection.

THE COURT: Oh, I understand your objection now. I appreciate that. Overruled. I'll allow it.

Go ahead, Mr. Levenson.

MR. GILMER: Your Honor, can I just ask for one clarification then? Because he said that he was going to -- that they would be willing to offer him in direct. Are you allowing this as part of cross or as part of direct? Because, again, I think it's outside the scope of cross.

THE COURT: So in this case, let me just be clear, we're doing a bit of both so that we don't have issues. As I have the leeway to be able to do that, I'm doing that, because I don't want to have to bring Dr. Buffington back.

So if you want to go outside, technically, sort of, the scope of a direct or a cross, that's -- that's fine on either side as long as it's a topic that I've permitted you to ask about. If, however, it's a topic that you have been prevented from talking about, then neither side can do that.

And if you want some latitude because you didn't anticipate this before questioning, I'll give you latitude, Mr. Gilmer.

MR. GILMER: I appreciate that, Your Honor. The reason why I think there's one other point of clarification on that

that I thought was important because, obviously, plaintiffs have the opportunity for rebuttal, but they can only rebut to the extent something comes up during cross and not something that's introduced during their direct. So that's why I wanted the clarification and thought it was important because, obviously, I don't have that opportunity to have a rebuttal. So that's why I thought it was important that we clarify if it's under direct or under cross.

THE COURT: I appreciate that. Thank you.

MR. LEVENSON: If I can just clarify, Mr. Gilmer asked a question about -- about barbiturates yesterday which opened the door --

THE COURT: Okay. Mr. Levenson -- Mr. Levenson, I'm going to allow you to ask the question. So you can -- you can go ahead and ask the question.

MR. LEVENSON: Okay.

BY MR. LEVENSON:

Q. I'll repeat the question. Is it your opinion that pentobarbital has been demonstrated repeatedly as an effective or successful drug in the execution context?

A. Yes. In review of prior histories of lethal injection protocols, it has been used and to the point of execution.

Q. And you're aware that several states use pentobarbital in lethal injection executions?

A. No, sir, I'm not familiar with any that have access now.

There may be some that have old inventory, but that's been made very difficult based on the manufacturers for a state to have access to use it.

Q. So you're not aware that Texas currently uses pentobarbital in their execution protocols?

A. Same as the last answer.

Q. And you're not aware that Texas has executed six people in the last two years using pentobarbital?

A. Same as the last answer.

Q. And you're not aware that Texas compounds pentobarbital to use in their executions?

A. Same as the last answer.

THE COURT: Can I ask you a question about -- we've had "compounding" come up in this context.

THE WITNESS: Yes, sir.

THE COURT: Can you explain to me what that means? Because it does seem to me that if you're not getting it from a drug manufacturer, compounding it could have other complications because you're -- you're not having the same producer of this drug create it.

Can you -- can you explain a little bit that process to me?

THE WITNESS: I would love to. And that last statement was very much -- very much a misnomer. Compounding is an art and part of the science of pharmacology. Pharmacy is the keeper

of that skill set. Compounding of medications happens every day all across this country.

The specialty within pharmacy to do that requires the right equipment, requires the right training and skills, but it happens every day.

THE COURT: Now, is there a certification process to make sure that people are doing it safely?

THE WITNESS: Uhm, there is recently enhanced credentials, but that doesn't mean that a pharmacist who graduates with the training and skills, which all programs do, can't compound. The difference comes in, is with some of the newer more expensive medications, some of the payers: health plans, Medicare, Medicaid, may ask for the pharmacy and pharmacist to demonstrate the added credentials. It -- it's a compliance factor.

So with that, there is no reason for a patient to worry about a compounded product. So you can take a commercially-available product made by Company X, without mentioning a name, and if there is a need for that medication, the pharmacologic agent, to be put into a different dosage form, a different dosage than what the manufacturer produces in their pill, their vial, their whatever formulation, then pharmacists will then use the skill and the art of compounding to make a modified version to meet the patient's needs.

Once a product goes off patent, then there's even less

of an issue with regards to compounding something that's maybe, say, even identical to a commercially-available product from a manufacturer.

There -- I'm not aware with the -- with the rare exception of like the Massachusetts case where it was absolute abhorrent conditions and the Board of Pharmacy there overlooked the proper inspections and there were fatalities.

Average compounding is as good a quality product as what comes out of the pharmaceutical manufacturer with quality assurance measures, documentation. So compounding is an appropriate method for preparing a commercial product.

THE COURT: Perfect. Thank you. I appreciate that explanation.

Go ahead, Mr. Levenson.

BY MR. LEVENSON:

Q. So, I just want to return to something, Dr. Buffington. I asked you a question whether you were aware that states currently use pentobarbital and you said you were not aware, correct?

A. I did not say that. I said I don't know whether or not they are getting it commercially available or if they got it from leftover inventory from before. I -- I know that the product's been used.

THE COURT: And is it still being used as far as you know?

THE WITNESS: Yes, in -- in rare circumstances. What I'm familiar with is when it's leftover inventory --

THE COURT: No, but I'm just saying -- I'm not talking about the inventory. I'm saying, as far as you know, are there states that are still currently using pentobarbital?

THE WITNESS: Yes.

THE COURT: Okay.

THE WITNESS: I don't think many because of difficulties.

THE COURT: Okay. Okay. That's -- and you were saying that they -- may not be possible potentially to still get it?

THE WITNESS: To get the commercially-available product?

THE COURT: Right.

THE WITNESS: Or the -- the raw sources materials needed to make a compounded version?

THE COURT: Oh, you can't compound it?

THE WITNESS: You could if you had the resources. And the same thing, the manufacturers make it difficult for those resources to be acquired by the state.

THE COURT: Oh, okay. All right.

THE WITNESS: Under, literally, collusion methods.

THE COURT: Okay. Thank you.

BY MR. LEVENSON:

Q. And, Dr. Buffington, are you aware that there are pharmacies

in the U.S. that can compound pentobarbital for use in lethal injection cases?

A. Many.

THE COURT: So I'm sorry. Are you saying that there are pharmacies that are currently compounding pentobarbital right now?

THE WITNESS: No, sir. That's not the question he asked. The question he asked was "can." So, yes, the equipment, the technique, the skills, the resources are there. I don't know of any now that are actually compounding it.

THE COURT: Okay. Thank you.

(Plaintiff's counsel conferring.)

BY MR. LEVENSON:

Q. You state in your June 24th report that the state DOCs cannot purchase pentobarbital. Is that correct?

A. I have not seen any state have a success in purchasing it.

Q. And how do you know that?

A. Professional networks, discussions, conferences.

Q. In your deposition when I asked you that question, didn't you state that you were told that by Director Daniels and Director Gilmer?

A. As well for NDOC.

Q. Attorney Gilmer, I apologize.

MR. GILMER: I'll take the promotion.

BY MR. LEVENSON:

Q. I want to turn to assisted suicide. You testified yesterday about your work consulting on end-of-life matters. Do you remember that?

A. Very clearly.

Q. And there was a discussion about end-of-life care and physician-assisted suicide. Do you remember that?

A. Very clear.

Q. And you stated that patients have asked you about what drugs should be -- or, I'm sorry, in your deposition you testified that you have been asked about which drugs should be used in physician-assisted suicide. Is that correct?

A. That is correct. And -- and it comes up, as I stated randomly throughout a year, as part of consultative services.

Q. And you've advised patients on this issue, correct?

A. Patients and their practitioners, yes.

Q. And you said you have participated in the care of a person when this took place, correct?

A. Correct.

Q. So I just want to -- I want to be clear about this. There seems to be two issues here. One is physician-assisted suicide and the other is end-of-life care. Is that correct, there are two different things?

A. They are absolutely separate.

Q. So when you said that you had participated hundreds of times, were you -- were you remarking that you had participated

hundreds of times in end-of-care or physician-assisted suicide?

A. I think it was very clear in the deposition. Approximately page 111, it addresses the question on physician-assisted suicide. There's about eight states in the United States that have that as legislative activity. I have not gone to those states or participated in that. I've answered consultative questions.

But as it comes to the question from the judge yesterday, which I think in the transcript yesterday was in the afternoon, say at about Page 7, it addressed very specifically participation in hospice, palliative care, and end-of-life. And the answer in that is I've been involved with many over the years.

Q. So when you testified yesterday that fentanyl is used, you were speaking about in end-of-care, not physician-assisted suicide.

A. Correct, although my understanding is it's been both.

Q. I'm -- I'm sorry. You personally have not --

A. No. My -- my testimony, I have not participated in those states in the process with physician-assisted suicide as clearly stated in the deposition.

Q. And, again, that you haven't seen fentanyl used in physician-assisted suicide, rather in end-of-care?

A. Well, I wasn't part of those so I didn't participate in those, but I have heard that it's been used in ...

Q. You have never suggested ketamine should be used in the physician-assisted suicide, correct?
A. No, sir.
Q. And you're aware of written material that discusses end-of-life care and physician-assisted suicide, correct?
A. Correct.
Q. And I think yesterday and in your deposition you said that there was an abundance of material on this issue, correct?
A. There absolutely is.
Q. And after your deposition we asked Mr. Gilmer -- we asked you for a list of those references and you gave those to Mr. Gilmer, correct?
A. Yes. Some were disclosable. Some were not.
Q. Looking at Exhibit 201.
A. Is in your late binder? This one?
Q. It's in the binder, yes. And I was going to pull it up, but if you just want to look at it. I was going to pull it up for everyone else.

So scrolling down to the second page, it looks like the first page is the e-mail. The second page and forward, does that look like the list that you supplied to Mr. Gilmer?
A. It does.
Q. Okay.

You stated yesterday that opioids, including fentanyl, are routinely used in end-of-life matters. So, again, I just

want to be clear. When you were talking about opioids being used in end-of-life, that was end-of-life matters as opposed to physician-assisted suicide. Is that correct?

A. Correct, but I have heard of practitioners who have used opioids in physician-assisted suicide as well.

Q. But aren't the group of drugs most commonly used for end-of-life, aren't they barbiturates?

A. They are one agent, yes.

Q. The most commonly used. Again, I want to be very specific. My question was, the most commonly used drugs in physician suicide are barbiturates?

A. I don't have a data source that would support that statement.

Q. Okay. Can we look at Exhibit 204.

MR. GILMER: Your Honor, I understand and appreciate the Court's ruling. So -- so that I don't interrupt plaintiff's counsel, when they ask barbiturates, may I have a standing objection pertaining to that issue so I don't have to continue to raise it?

THE COURT: I -- I think this is a different issue actually, Mr. Gilmer.

MR. GILMER: Okay.

THE COURT: So I think this is for impeachment purposes, so I don't think this is the same issue --

MR. GILMER: Okay.

THE COURT: -- as being offered for necessarily just for the purpose of alternatives. But to the extent that it is and would be -- would be argued to me later, you have that objection.

MR. GILMER: Thank you, Your Honor.

THE COURT: Which I -- I've overruled and I'm overruling.

BY MR. LEVENSON:

Q. Is this one of the articles -- this is Exhibit 204. Is this one of the articles that you supplied us?

A. I don't recall this article. And this isn't even U.S. This is Australia.

Q. So I'll go back to 201, which is your list. And I think we're looking at -- this article is entitled Euthanasia Drugs.

A. There it is.

Q. Do you see it?

A. I do.

Q. So this would be one of the articles you supplied for us, correct?

A. Correct. And it would acknowledge that barbiturates are used --

THE COURT: Well, let -- again, Dr. Buffington, wait until he asks you the question.

All right.

BY MR. LEVENSON:

Q. And so, again, my question is ...

The question is, doesn't this article state that the group of drugs most commonly used to end life are called barbiturates?

A. In Australia, that's the way I would interpret this. So I don't think this would serve as a basis for what your prior point was.

Q. But, again, this is -- when we asked for references for end of life and assisted suicide, this is one of the references you gave us, correct?

A. And it meets that.

THE COURT: Okay. So let's move on.

MR. LEVENSON: Certainly.

BY MR. LEVENSON:

Q. Isn't pentobarbital the drug of choice for assisted suicide?

A. No, sir.

Q. So let's look at Exhibit 206.

Is this one of the -- this is one of the articles you supplied for us. Does that look familiar to you?

A. Sure.

Q. And looking at Page 6064.

So looking at Page 6064 under sources, the last line says, and tell me if you disagree with this or agree: "Barbiturate is drug of choice for assisted suicide."

A. It can be. That's not limiting it to the only drug for

that.

Q. But it does state it's a drug of choice.

A. Sure. I can come up with many other drugs of choice as well.

Q. And isn't secobarbital the drug of choice or another drug of choice for euthanasia patients?

A. It can be. The barbiturates can be used. They're just difficult to acquire.

Q. And isn't it because secobarbital and pentobarbital have been tried and tested?

MR. GILMER: Objection, Your Honor, assumes facts not in evidence.

THE WITNESS: Correct. I would not state that.

BY MR. LEVENSON:

Q. So going back to Exhibit 204 --

THE COURT: Okay. Well, hold on. You didn't let me rule on the objection.

MR. LEVENSON: I'm sorry.

THE COURT: I'm going to overrule it. But he answered it anyway, so I will leave it as it is.

Go ahead.

BY MR. LEVENSON:

Q. Looking at Exhibit 204 and Page 6046.

Right in the middle of this article that you supplied us it said, "these two products," and it's referring to up above

secobarbital and pentobarbital, "are tried and tested, have the advantage of years of use with the benefit of knowing the exact dose range needed and with few adverse effects reported, such as unexpected pain, drawn-out death, or failed death."

Do you -- this is an article, again, that you supplied us. Would you agree with that statement?

A. Yes, specific to those products, but that doesn't say that there's been proved and failed cases or pain with other medications.

THE COURT: Okay. Do you agree with that statement, though?

THE WITNESS: I said, yes.

THE COURT: Okay. I didn't hear that part. Okay.

(Plaintiff's counsel conferring.)

MR. LEVENSON: So, Your Honor, I'd like to, if I can, admit the exhibits that we have just looked at, which would be Exhibit 201, which will be the list from Dr. Buffington and the e-mail attached, Exhibit 204, Exhibit 206, Exhibit 264.

MR. GILMER: I'm sorry. What was 206 and 264?

MR. LEVENSON: 206 was Medical Toxicology of Drug Abuse.

MR. GILMER: I didn't get a copy of that. So once it's gone, I can't see what it was.

(Plaintiff's counsel conferring.)

MR. LEVENSON: And I just have one more after that. If

the -- I can ask one more question and then ask to admit the whole -- the whole bunch, Your Honor.

THE COURT: I'm sorry. So are you asking for permission to wait to admit these or you want to offer them now?

MR. LEVENSON: I'm sorry. I have one more question to ask with one more exhibit to admit.

THE COURT: Okay. That's fine.

BY MR. LEVENSON:

Q. Have you reviewed the entire book that you provided to us from Derrick Humphrey entitled Final Exit?

A. I have read the book multiple times. I don't think I've taken it to memory.

Q. Doesn't Humphrey conclude at the end, "From listening to hundreds of accounts over the last 15 years, there is no doubt in my mind that the only drugs which a doctor should prescribe for a patient's self deliverance are the barbiturates listed in the drug dosage chart in the center of this book, namely, secobarbital or amobarbital."

A. That is his opinion, yes.

Q. Or pentobarbital?

A. Correct, barbiturates. As I stated the entire time, they've proven to be effective through use in multiple.

THE COURT: If you had a choice between using them versus using fentanyl and ketamine, which would you choose?

MR. GILMER: Just want to place my objection on the

scope issue, Your Honor.

THE COURT: Overruled.

THE WITNESS: I would say given the depth of sedation and anesthesia, interchangeable.

THE COURT: No. If you had to choose between them, pentobarbital and the current protocol in terms of being tested and reliable, which would you choose?

THE WITNESS: I think my answer's the same. Clinically --

THE COURT: Okay. Well, I'm sorry.

THE WITNESS: Clinically, either is acceptable. I'm not choosing.

THE COURT: But I'm asking, right, to -- right, if you had to make the decision, which would you choose and why?

THE WITNESS: In the context of today's discussion, I would choose the fentanyl and the ketamine given the depth of analgesia, the depth of amnesia, and the depth of sedation, and the speed. Barbiturates do work. They're not always fast. They also cause pulmonary edema. They also carry with them others. So, yes, they've been used frequently, but given the choice and the art of combining that regiment, that's for the first part.

THE COURT: But doesn't that seem to go against the very science that you provided? Because these studies that you provided seem to suggest that they're more tested, more

reliable, and fewer complications based upon the articles you provided. So why would you be going against the articles that you provided? Because that's not what, at least, I take from what -- what you provided.

THE WITNESS: So the question that was asked for me to provide was information about end-of-life care.

THE COURT: No, I'm talking about my question.

THE WITNESS: I understand.

THE COURT: Okay.

THE WITNESS: A, I'm not familiar with examples where there were complications.

THE COURT: Of what?

THE WITNESS: Of any of the discussion. You have -- the caveat you gave was that compared to --

THE COURT: Right.

THE WITNESS: -- others, there were less complications. I'm not aware of what was referenced as the complications with non-barbiturates.

THE COURT: Well, that's in part, right, because this particular protocol has never been tested before, so that's why I was asking you. In terms of the dosages for these other barbiturates that are referenced in the materials where they appear to be that the dosages have been tested in their end-of-life uses, why wouldn't you choose those where there is established experience versus the protocol that's never been

tried before?

THE WITNESS: So no disrespect, I think that you've broaden the question. You're not asking fentanyl anymore and --

THE COURT: Right.

THE WITNESS: -- ketamine against seco or a barb.

THE COURT: Right.

THE WITNESS: You're asking now the whole protocol, which includes Drug 3 and Drug 4.

THE COURT: Okay. Yeah.

THE WITNESS: Okay. So with that, I would expect a faster to completion, with the four-drug protocol, the multiple pharmacologic effects. There have been cases with those medications proven effective. The exact four -- exact four dose? No, but I'm confident in the pharmacologic effects and properties, and that's been the basis of my opinion.

THE COURT: I see.

THE WITNESS: So barbiturates are clearly an option, if they're accessible. If they're not accessible, other regiments are equally effective at achieving the same end goal.

THE COURT: So it sounds like one of the reasons why you say you would prefer, potentially, the current protocol, would be speed of effect, overall effect. Is that correct?

THE WITNESS: Speed, accessibility.

THE COURT: I'm not -- again, take accessibility out for the moment. I'm just talking about in terms of if you had

them equally accessible to you and could choose a method, right, you're saying you would still choose the current method because you think it would reach its effect faster. That's one of the reasons, right?

THE WITNESS: Correct.

THE COURT: Because you think that it would -- it would take more time with pentobarbital or some of the other barbiturates. Is that right?

THE WITNESS: It can. Some of those can be over a day.

THE COURT: Okay. So in the executions where they used pentobarbital, did they take that long?

THE WITNESS: I would have to go back and look. The question that was asked is, my confidence in the pharmacologic properties of a single barbiturate versus a multidrug back-to-back using multiple pharmacologic properties. I would take that pattern.

THE COURT: But so -- but I thought you said you had looked at some of these other executions that used pentobarbital.

THE WITNESS: I have a whole database. I don't have it in front of me.

THE COURT: Right. But what I'm saying to you is that, in those executions, right, do they on average take longer than what you would expect to happen with this protocol?

THE WITNESS: It's variable.

THE COURT: No, but what I'm saying is that you seem to suggest that pentobarbital would take longer. I'm trying to figure out why you're saying that when there are other executions that have used it, right. Are you saying that because those other executions took longer than you thought they should take? Or what would be the basis for saying that if these other executions used pentobarbital, why would it be inappropriate here?

THE WITNESS: Well, I didn't say appropriate. You said choice.

THE COURT: Okay. So why wouldn't you choose it here? Given what you're saying about if the concern is fewer complications, right, speed, right, why would pentobarbital not be preferred to the protocol here?

THE WITNESS: Well, it would be any barb, pento, seco.

THE COURT: Okay. Right.

THE WITNESS: The other issue is, I'm not aware of any evidence of complications. So that variable, I would not include. They're not comparing based on complications.

THE COURT: And you're not aware of any complications for what?

THE WITNESS: A lethal injection protocol specific to an alternate medication other than barbiturate.

THE COURT: Well, I thought you had said that there could be complications from fentanyl from respiratory

depression; that if it was used, that could be a complication.

THE WITNESS: That is a therapeutic goal in that situation.

THE COURT: No, I understand that. But I'm saying that's not -- right, in this case, right, that -- that is certainly something that can happen, but that's not -- that's not -- the design of the protocol is not to cause death by respiratory depression, right?

THE WITNESS: That is correct. Nor would it be certain that that dose would. So its -- its attribute --

THE COURT: Right.

THE WITNESS: -- of respiratory depression would only facilitate the procedure of lethal injection protocol.

THE COURT: Right, but it could be a complication in the context of a lethal injection protocol because if not properly addressed, and you've talked about that a little bit, it could potentially subject someone to suffering.

THE WITNESS: No, sir. I've never said that. What I stated yesterday is that unconsciousness and respiratory --

THE COURT: Let me clarify what I meant.

THE WITNESS: Okay.

THE COURT: And so maybe we don't have to talk past each other. I'm trying to understand -- again, you're saying that you think that -- that this protocol would be preferred to a protocol that used pentobarbital as has been used in other

executions, right. And I'm trying to understand if it's already been established and used in those protocols and there's already -- already a track record, why you would still say, right, that this protocol, which has not been used, would be preferred. If you could just sort of be specific about why you think this is preferable.

THE WITNESS: Again, multidrug platform for the effects, no familiarity or agreement that there's complications with the other drugs other than a barb, and the speed with which you achieve the end goal for the procedure.

THE COURT: Okay. All right. That helps. Thank you.

Go ahead, Mr. Levenson.

BY MR. LEVENSON:

Q. Dr. Buffington, you've mentioned your database a couple of days now. Does your database record how long executions take?

A. When that information is available.

Q. Can we have a copy of your database after this -- during the break? Can you supply a copy of the database?

A. No.

Q. And why not?

A. Because it's electronic and I don't have it with me.

THE COURT: I'm not sure why you need it, Mr. Levenson. If -- if it's publicly-available data, then -- then you can gather it yourself. I don't know why we would need to have that information. So before I would even order him to provide it,

I'd have to have a reason for that. I don't see a reason right now. So let's move on.

MR. LEVENSON: I guess if I could just make the record, Your Honor. The reason would be --

THE COURT: Well, let's wait until his testimony is over with, and then we can talk about what you may or may not want to request because right now I don't see the reason. Perhaps, I will at the end, but let's not spend time that we need on the testimony on that particular argument.

BY MR. LEVENSON:

Q. Are you aware of the -- how long it takes for an execution -- a pento execution in Texas?

A. No, not off the top of my head.

Q. And what about the Federal Government's recent 13 executions in 2020 and 2021? Are you aware how long they took?

A. No, sir, not off the top of my head.

Q. In your deposition you testified that in the last two years --

MR. LEVENSON: Oh, I'm sorry. I'd like to go back and admit -- I want to add to that list Exhibit 263.

THE COURT: Okay. Any objection?

MR. GILMER: Your Honor, thank you. And I don't think you asked me about objections for the other ones either.

THE COURT: No, I -- we have the full list.

MR. GILMER: Right, exactly.

So I guess it depends on the purpose they want to introduce these exhibits. I think that these are all being brought in for impeachment purposes is my understanding. So to the extent they're being brought in for impeachment purposes, I -- you know, and that sole reason based upon the other Court's rulings on that, I guess they can be admitted. I don't think they go to the truth of the matter asserted here because they're not anything that's been previously provided as discovery. So they're clearly under the impeachment realm. And, therefore, with that caveat and that objection, I would leave it to the Court's determination.

THE COURT: Okay. I'm not sure what -- what the distinction is, Mr. Gilmer. I'm just saying Dr. Buffington offered them as studies that he would provide. He's confirmed that.

I would consider them for the -- the information that has been referenced here today. I don't think there's anything else that's being referenced because, quite honestly, unless Dr. Buffington or some other expert explains it to me, I'm not sure that I would be able to understand all of what's there.

So to the extent that it comes in, it will come in for the purposes that it was used for impeachment, but also the content of the article. So -- just to clarify. So I will admit -- admit it on that basis.

Let's move on, Mr. Levenson.

(Plaintiff's Exhibits 201, 204, 206, 264, and 263 are admitted.)

MR. GILMER: And on that point, Your Honor, just that the objection I -- it referenced before about the scope of pentobarbital not being raised by any of their experts at any point in time in this case I think would also apply to -- to these documents to the extent they try to rely on these documents for that purpose.

THE COURT: I appreciate that, but, again, I'm going to -- I want to be clear, Mr. Gilmer. All of the witnesses are potential witnesses for either side as it relates to their argument. And that's -- that's -- that was my ruling and still is my ruling, so I don't see that limitation in this context.

Okay. Let's move on, Mr. Levenson.

BY MR. LEVENSON:

Q. Dr. Buffington, in your deposition you testified that in the last two years you had seen alfentanil used to induce anesthesia along with a barbiturate. Do you remember that?

A. Yes.

Q. And you stated the barbiturate you had seen the most used in the last two years in combination was Pentothal, P-E-N-T-O-T-H-A-L. Is that correct?

A. Correct.

Q. And Pentothal is the brand name of sodium thiopental, correct?

A. Correct.

Q. Did you realize that Pentothal was discontinued by its only manufacturer, Hospira, in 2011?

A. Yes, but it's still accessible via different pathways.

Q. It's still accessible, excuse me?

A. Via different pathways.

Q. And what are those pathways?

A. Typically compounding pharmacies.

Q. Can you tell us which compounding pharmacies still make sodium thiopental.

A. I would have to go back and look.

Q. Can you supply that after -- during a break?

A. I don't know if I can get the answer during a break, but I can ask.

MR. GILMER: Again, Your Honor, I would like -- I'm not sure -- discovery's closed at this point in time. We can hear argument about it later.

THE COURT: That's why I said, Mr. Gilmer, we'll deal with requests for information at the end of the testimony. Let's focus on getting the testimony done, and then we can deal with any requests for additional information after that.

BY MR. LEVENSON:

Q. Dr. Buffington, yesterday you testified there was an adequate stairstep or stool for someone that wanted to see in or see it different. That was based on looking through the viewing

window room.

A. Correct.

Q. Did someone bring in a stairstep into the drug administrator's room during your site inspection?

A. I don't recall that.

Q. You don't recall. And do you -- can you tell us who needed to use the stairstep to see into the window?

A. No one.

Q. No one used it?

A. No.

Q. In a series of questions yesterday regarding the need for an anesthesiologist to be by the patient during a surgery or procedure, you stated that sometimes in the OR suite you have, quote, four people, one is the patient and three in the other room coordinating the medication facilitation. Do you remember that?

A. Correct.

Q. What do you mean by "medication facilitation"?

A. Drug preparation, admission into the -- infusion into the line, and coordinating to make sure that the medication is being delivered to the inmate.

Q. And where --

A. The person on the other side of the wall is the one who's dealing with the inmate themselves.

Q. In what specific procedures does this take place where you

have the separation of the drug pusher and someone by the patient? Which specific procedures have you seen this used for?

A. I don't understand the question.

Q. Well, you've said that you see in an OR suite the separation where you have some people in one room and some people in another room. So I am asking you which specific procedures have you seen this used in.

A. Sure. It's very common in the OR suite to see the anesthesiologist leave to go to another room and there are other allied healthcare professionals: nurses, PharmDs or others, who may be assisting with the procedure. So the anesthesiologist can be in another room and others dealing with the patient in another.

Q. But the question is, which specific procedures have you seen this used in?

A. Surgeries.

Q. Which surgeries?

A. Well, multiple.

THE COURT: Well, I guess I'm trying to understand. Are you saying that the anesthesiologist is actually in another room watching and -- as if -- as -- as would be, in this case, an execution chamber? Or are you saying that they leave the room, and then while they have left the room, other people are taking over for them?

THE WITNESS: Correct. The latter.

THE COURT: Okay.

THE WITNESS: If -- if -- there are times when the anesthesiologist is not in the room.

THE COURT: Right.

THE WITNESS: And there are times when other allied healthcare professionals are helping with the process. So multiple people -- my point was, multiple people dealing with that patient --

THE COURT: Right.

THE WITNESS: -- not all in the same room.

THE COURT: But you're not saying that -- that it was common for you to see an anesthesiologist in a particular surgery administering the medication from a room that's adjacent to the surgery while she or he is just focussed on that one surgery.

THE WITNESS: That is correct. But, likewise, the people that are in the other room are merely --

THE COURT: Right.

THE WITNESS: -- facilitating drug prep and infusion into the line. They're not managing the patient.

THE COURT: Right. So what you're saying is that there -- there can be multiple people besides the anesthesiologist who are part of the management of the administration of drugs, and in that instance you've seen the anesthesiologist leave the room and come back and allow those

individuals to continue in the management of that, sort of, administration.

THE WITNESS: Very accurately stated.

THE COURT: Okay.

MR. GILMER: And, Your Honor, for the record, I think it's clear, but you said like the anesthesiologist in the protocol. The protocol doesn't say there would be an anesthesiologist. So I just -- in case later on there's any confusion on that point.

THE COURT: Right. And I think it says that there's going to be an attending physician --

MR. GILMER: Correct.

THE COURT: -- right, in the -- in the room, though.

MR. GILMER: Yes.

THE COURT: The attending physician's not going to be in the other room, the medication room or the workroom. I think it's referred to separately.

MR. GILMER: I understood your point, but sometimes writing -- looking at it on paper later, I just wanted to make sure it was clear.

THE COURT: No, no. I think that that's an important distinction to make, Mr. Gilmer. So thank you.

BY MR. LEVENSON:

Q. Dr. Buffington, yesterday there was a JAMA article introduced. I believe it was Exhibit 567 entitled The PH and

Acidity of Intravenous Infusion Solutions. Do you remember that?

A. I do.

MR. LEVENSON: Your Honor, may I put this on the ELMO? Because I don't have --

THE COURT: Yes, you may.

MR. GILMER: I can pull it up.

MR. LEVENSON: You can pull it up, Randy?

MR. GILMER: Yes.

MR. LEVENSON: 567.

MR. GILMER: Yep.

It was actually 568, I believe.

MR. LEVENSON: Okay.

MR. GILMER: This is the one you're referring to?

MR. LEVENSON: Right. And can you go to the last page.

MR. GILMER: Farther up or ...

MR. LEVENSON: Farther up.

No, I'm sorry. Just a little bit down. And just a little bit more. Perfect. Thank you.

BY MR. LEVENSON:

Q. Dr. Buffington, doesn't that article state: "When the hydrogen ion reservoir of an infusion solution is sufficiently great, neutralization might be delayed and, thus, prolonging the effect of increase acid activity"?

It's in the middle of this paragraph starting with "the

PH."

A. Yes, I'm familiar with it.

Q. And does it also state that the rate of infusion will make a difference in the acidity?

A. Yes, but it also states that there's no complications as a result of the acidity. The body immediately neutralizes upon entering the vasculature.

(Plaintiff's counsel conferring.)

MR. LEVENSON: Thank you, Randy -- Mr. Gilmer.

BY MR. LEVENSON:

Q. Dr. Buffington, do you remember the testimony yesterday about the American Veterans -- I'm sorry -- the veterinary association, about their euthanasia techniques?

A. Yes, and there were about 11 citations in that document.

Q. And does this look like this is the one that we were speaking about yesterday?

THE COURT: So, Mr. Levenson, I really don't want to spend a lot of time on this. We spent more time on it yesterday and before that than I really thought was necessary or appropriate. This, I don't think, would be a productive use of your time.

MR. LEVENSON: I have two questions. Could you -- can we go through two questions, Your Honor?

THE COURT: Sure. I'll let you -- we'll see how they go. Because if I think that they're not relevant, I will -- I

will let you know.

MR. LEVENSON: Okay. Thank you.

BY MR. LEVENSON:

Q. Doesn't the AVMA prohibit the use of a paralytic on a conscious vertebrate animal?

A. It does. It goes on to state multiple times that it should be when unconscious, and as it would be in this protocol.

Q. And doesn't the AVMA prohibit the use of a paralytic agent as a sole means of inducing -- I'm sorry -- means of euthanizing animals?

A. No.

Q. If we can look --

THE COURT: Well, okay. Mr. Levenson, let's move on.

MR. LEVENSON: Okay. Fair enough.

BY MR. LEVENSON:

Q. Dr. Buffington, do you know what the specific training the EMTs will receive from NDOC prior to an execution?

A. No, not specifically.

Q. And do you know what specific training the drug administrators will receive from NDOC prior to an execution?

A. Not specifically.

Q. And the same question with regard to the attending physician, what training he would receive prior to an execution, are you aware of that?

MR. GILMER: Or she.

THE WITNESS: Not specifically.

MR. GILMER: You used "he." I just didn't want the record to indicate that we knew if it -- what the gender --

MR. LEVENSON: He or she.

MR. GILMER: -- of the individual was.

BY MR. LEVENSON:

Q. Do you know the qualifications of the attending physician who will attend this execution?

A. I do not.

Q. Do you know what the qualifications are of the drug administrators who will be administering the drugs in this execution?

A. I do not.

Q. And do you know what the qualifications of the EMTs that have been selected for this execution?

A. I do not.

Q. I want to spend a couple of minutes on your C.V., Dr. Buffington.

A. Sure.

Q. (Pause.)

THE COURT: Mr. Levenson, how much more do you have? We've been going for quite a bit of time right now, and it may be appropriate -- I saw that, actually, Mr. Floyd stood up for a little bit there. It may be appropriate to take a break, but I want to find out how much more you have.

MR. LEVENSON: Maybe 20 minutes, Your Honor.

THE COURT: Okay.

MR. LEVENSON: It would be a good time for a break. I need to set something up and --

THE COURT: Okay. So why don't we take a break. All right. We'll be in recess for about 10 or 15 minutes.

(Recess taken at 10:41 a.m.)

(Resumed at 11:04 a.m.)

THE COURT: Please be seated.

All right. We shall continue with the testimony. You recognize, Doctor, you're still under oath?

THE WITNESS: Yes, sir.

THE COURT: All right.

BY MR. LEVENSON:

Q. Going into the home stretch, Dr. Buffington.

Can you -- I'm going to bring up Exhibits 223, 224, and 225. Dr. Buffington, Exhibit 223, I believe, is the C.V. that you gave in the Ohio execution protocol. This is the cover page, I believe, of your report. I just want to show you the C.V.

THE COURT: Is there a question?

MR. LEVENSON: I'm going to show all three C.V.s first, and then we have -- I just want to first lay the foundation that this is his C.V. from 2015, and then we're going to go through one in 2018 and one in 2019, Your Honor.

THE COURT: Okay.

BY MR. LEVENSON:

Q. So does this look like your C.V. from 2015? And if you want, Dr. Buffington, it is in that book if you wanted to take a look at the full C.V.

A. I'm fine. It does look familiar, unless it's been altered.

Q. Okay. And, again, just in the upper right-hand corner, it's dated July 6th, 2015.

And looking at 224, looks like a C.V. also presented in the Ohio execution protocol litigation.

Does this look like your C.V.?

A. It does.

Q. And this one's dated September 13th, 2018.

And then, finally, looking at Exhibit 225, this would be the C.V. that you turned over in this case.

A. Correct. And it's the still the current, awaiting updates.

Q. So, Dr. Buffington, what I've done is, to make this go faster, is I've taken your C.V.s and put them on a split screen. And if you're okay with that, we can ask questions that way. If you want to -- and I'm going to try to enlarge this a little bit.

So the first two we're looking at is from the 2015 C.V. on the left and the 2018 C.V. on the right. On your 2015 on the residency, which is in the circle, the second line it says, "Clinical pharmacogenetics residency, 1997 to 1998." In the

2018 C.V. under residency it's been changed to pharmacy practice residency. Is that correct?

A. That is correct. That's the current term that's used for that experience.

Q. And then looking at the fellowship, 1988 to 1989, it's called a clinical research fellowship on the 2015 resumé, but on the 2018 resumé the title has been changed to clinical pharmacology fellowship. Is that correct?

A. Correct. That is the correct title.

Q. And, again, these were residencies and fellowships that happened almost 30 years ago, correct?

A. That is correct.

Q. Going to the next page. See if we can make this a little bigger. Maybe too big.

We're looking still at the 2015 and the 2018 resumé. So your employment in your 2015 resumé was under education, and now it looks to be under specialty training under 2018. That's just -- you just rearranged your C.V., correct?

A. Correct. It's not under specialty, it's just after.

Q. Correct. Okay.

So looking at your employment in your 2015, in 2015 you have Center for Medicare and Medicaid Services Innovation Center.

A. Correct. I described this yesterday.

Q. And you have a -- your position is faculty research

participant, correct?

A. Correct.

Q. And in your 2018 C.V., that title is now O-R-I-S-E Fellow Medication Safety Expert. So that's a different title than your 2015 resumé, correct?

A. Correct. It expanded. I was there for over five years, and the title changed at different points as well. ORISE just reflects the grant source that was funding that position.

Q. So looking at your -- again, 2015 on the right, under University of South Florida College of Medicine, which is the 5/1991 to 8/1995, you have -- you state that you held this position from 1991 to 1995, correct, on your 2015 resumé?

MR. GILMER: Your Honor, I'm sorry to interrupt. I just learned that Mr. Floyd's phone went out. They have to switch it out, so he's without audio for about the next five minutes. So I just -- I apologize, but I just wanted to make sure that you and the Court was aware of that.

THE COURT: Do you want to wait, Mr. Levenson?

(Plaintiff's counsel conferring.)

COURTROOM ADMINISTRATOR: Your Honor, he's connecting.

THE COURT: He's connecting now, I'm being told. So why don't we give it a few minutes.

MR. LEVENSON: Certainly.

MR. FLOYD: I'm ready to go if everybody else is.

MR. LEVENSON: Can we resume, Your Honor?

MR. FLOYD: Yeah, I'm ready to go.

THE COURT: Go ahead, Mr. Levenson.

MR. LEVENSON: Okay.

BY MR. LEVENSON:

Q. In your 20 -- so in your 2015 resumé, you stated you held the position from 1991 -- 1991 to 1995. On your 2018 resumé, that has now been changed to 1991 to the present. Is that correct?

A. That is correct. If you look, the one on the left, the older, was specific to an appointment within the division of internal medicine. The one on the right is more descriptive and describes the positions I've had. At the time the one on the left, the College of Pharmacy wasn't originated until 2011. And then also it reflects the College of Nursing faculty activities and the College of Medicine.

Q. Looking at your 2015 resumé under "state," you have the University of Florida College of Pharmacy 2010 National Advisory Board. On your 2018 resumé that has disappeared. Is that correct?

A. Correct. I'm not on it anymore.

Q. I guess I'm trying to understand that. So it said 2010 on your 2015 resumé, but it's not anywhere on the 2018. So it seemed to be something that you -- in 2015 it had already past, correct?

A. Yeah, I'm not seeing your point. It just wasn't included on

the next.

THE COURT: Mr. Levenson, let's move on from here, please.

MR. LEVENSON: Okay.

THE COURT: Mr. Levenson, do you have other questions besides these types of C.V. questions?

MR. LEVENSON: I do. I do, Your Honor.

THE COURT: I would encourage you to move onto them.

MR. LEVENSON: Absolutely.

BY MR. LEVENSON:

Q. Dr. Buffington, have you been disqualified from testifying as an expert in any cases?

A. There have been a few. There was one I can think of. The Ohio case that did involve lethal injection. Opposing counsel -- the answer's yes.

Q. I'm sorry. The -- I missed the final part of it.

A. The answer was yes.

Q. Okay.

THE COURT: Why did that happen? You can explain that.

THE WITNESS: Thank you, Your Honor.

Opposing counsel did not like the format of my Federal Rule 26 report of prior testimony, which I had been using the same format for 20 years. Made a plea to the judge. The judge said edit. I modified. Now I have more data points than what that statute even requires. And within a week I was told time

was up. I was not given a deadline. So I was precluded based on the format of the Federal Rule 26.

THE COURT: Were you -- you weren't precluded based upon qualifications?

THE WITNESS: That is correct, sir.

THE COURT: All right. Thank you.

BY MR. LEVENSON:

Q. And weren't you disqualified in *Tomlinson vs. Smith*?

A. I don't recall that one.

Q. The Court stated you were not a specialist and could not offer an opinion against the testifying psychiatrist. Do you remember that?

A. Possibly on a particular data point or evidence. I don't recall the case.

Q. What about *State of Florida vs. Keith Dukes*?

A. I did testify in that case.

Q. The Court said you could not offer evidence which was outside your knowledge as a layperson. Do you remember that case?

A. No, and I did testify in the case.

Q. And what about *Noreen vs. Secretary of DOC* where you were prevented from testifying about the effects of ketamine. Do you remember that case?

A. No, sir. What was it called, Noreen?

Q. *Noreen vs. Secretary of the Department of Corrections.*

A. No, sir.

Q. And what about *Priest vs. Sandoz* where the Court excluded your opinion as unreliable?

A. That was -- I do recall that case. I was not involved with that hearing, but it was -- the judge made the decision over an FDA-labeling question, which was within my purview, but it was the judge's choice.

(Plaintiff's counsel conferring.)

MR. LEVENSON: Just a -- just a moment, Your Honor.

(Plaintiff's counsel conferring.)

MR. LEVENSON: Your Honor, we don't have any other questions, but we did want to ask the Court to take judicial notice of those statutes and regulations that we discussed earlier on.

THE COURT: So why don't we do this. I'm -- I assume that Mr. Gilmer may have some additional questioning. When we have completed Dr. Buffington's questioning, then we can proceed to issues like that as well as requests for additional information.

So why don't you wait on that request for now, Mr. Levenson, and I'll come back to that.

Mr. Gilmer, did you have any follow-up?

MR. GILMER: I have just a few -- very brief follow-up, Your Honor. I know, lasting words. And, plus, I -- before -- a couple of those questions I think I have to expand on the record

from earlier, but I'll get to that when I get to those questions.

THE COURT: Okay. And before I get to you, Mr. Pomerantz, as always, I don't want to leave you out in terms of questioning. Were you going to be questioning or did you have any questions for Dr. Buffington?

MR. POMERANTZ: Your Honor, I think it's fair to say that we won't have any questions for any of the expert witnesses.

THE COURT: Okay. Thank you.

All right, Mr. Gilmer.

MR. GILMER: Thank you.

REDIRECT EXAMINATION OF DANIEL BUFFINGTON, PHARMD

BY MR. GILMER:

Q. Dr. Buffington, you were asked during cross-examination about whether or not you had done any specific studies pertaining to fentanyl and you said that there was some studies that you did, but it wasn't fentanyl specific. Can you point those out to us on your C.V. if I put the C.V. on the screen?

A. I could look for it. I can tell you very specifically one was a new drug called ziconotide, Z-I-C.

Q. That -- that's --

MR. GILMER: If we could have 511 on the screen. And if I can get it to open. I apologize.

BY MR. GILMER:

Q. Just trying to get down to that section in your C.V.
A. It's a ways.
Q. I believe maybe 4 -- Page 14 may be one that might be relevant. I don't want to put words in your mouth, but just looking at the words. (Pause.)
Is this --
A. Those -- those are publications.
Q. Okay. And we're looking at studies, so I need to just keep scrolling?
A. Yes, sir. Yes, sir. A ways. There you go. Okay. Hold on. Scroll up.
There was patients on ziconotide in the 2015 study, the once-daily hydromorphone.
Q. I'm sorry, Dr. Buffington. I'm having a difficult time hearing you. Maybe the court reporter did.
A. There -- in the 2015 study involving once-daily hydromorphone, there were patients on ziconotide there.
Q. Is this the one that I'm moving --
A. Yes, sir.
Q. -- with the mouse here that you're referring to?
A. Also, the next study was looking at cancer pain and opioid-induced side effects. That had fentanyl.
Q. And then was there also side effects in the 2011 study that I'm looking at there?
A. Well, fentanyl, yes. And also the next -- the Statobex.

Q. Moving on to 209, are there any in this section?
A. One we're looking for here will be -- the one in 2005, there's another Statobex study just above the 2005 marker.
Q. And I believe you go to the previous page, that's 2009. Is that correct?
A. Correct. And then there's actually, right there, the second study -- both the first and second and third, and fourth studies in 2005 that included fentanyl even in the title.
Q. Any in 2004?
A. Yes. The fourth is an --

(Court reporter clarification.)

THE WITNESS: Yes, it is a long string. An open-label, long-term, multi-center, intrathecal, T-H-E-C-A-L, ziconotide, Z-I-C-O-N-O-T-I-D-E. That should be sufficient for labeling that. That is an intrathecal pain medication, and many of those patients were on ziconotide.

The next study, also a multi-center, open-label study of OraVescent fentanyl citrate as well as the next study.

More than I recalled. And keep scrolling.

BY MR. GILMER:
Q. Thank you, Dr. Buffington.

And you also testified on cross that you hadn't done any specific papers pertaining to these drugs. Are these drugs -- and when I say "these drugs," I'm referring to the ones in the protocol, which would be fentanyl, alfentanil, ketamine,

cisatracurium, potassium chloride, and potassium acetate. I understand that's a lot of drugs. If I need to split them up, I will, but I think your answer -- your answer may or may not be the same for all of them. So I'm going to ask it that way and hopefully spare some time.

Are all of those drugs drugs that you're familiar with just based upon your degree as a PharmD and working in pharmacology on a day-to-day basis?

A. Degree, training, and professional experience, yes.

Q. So each of those drugs would be drugs that you would be asked to consult with from time to time pertaining -- by physicians?

A. Routinely.

Q. And so when you provided testimony pertaining to the side effects and what you would -- what you would expect to occur if those drugs were used in the protocol, that's based on routine training as -- as a pharmacology -- as a PharmD in the area of clinical pharmacology?

A. Training and professional experience.

THE COURT: Well, let me ask you a question. Is PharmD the same thing as clinical pharmacology?

THE WITNESS: Yes, because the actual training is --

THE COURT: No, but I'm saying, are they -- are they actually different sort of disciplines? So they may overlap, but I want to make sure that I'm -- I understand whether or not

they're synonymous and they mean the same thing or people use them as related fields, but they're not the same. Could you help me understand that.

THE WITNESS: Sure. They do. And I will also acknowledge there are some physicians who, out of all of the specialty potentials, have a unique interest. I've worked with several, who -- M.D., but their primary interest is in clinical pharmacology as well. It could be used for them as well.

THE COURT: I see. So clinical pharmacology is not a degree the way that PharmD is.

THE WITNESS: It is a job and a role as opposed to just saying a degree. You're absolutely correct.

THE COURT: Okay. But can you be board certified as a clinical pharmacologist?

THE WITNESS: I think there is, but I think that one's special to M.D., the panel that made that one.

THE COURT: Okay. All right. Thank you. That helps.

BY MR. GILMER:

Q. And what type of M.D. would have a -- would be a clinical pharmacologist?

A. From what I see, someone who is very interested in clinical research, FDA drug approval and development, health policy or within the industry. It's a very small subset, but there is some overlap.

Q. Different than anesthesiologist?

A. Yes, I would not refer to an anesthesiologist as a clinical pharmacologist.

Q. And earlier, plaintiff's counsel asked you a question -- Mr. Levenson asked you a question pertaining to a Ph.D. in pharmacology as opposed to your PharmD and clinical -- and your area of work, clinical pharmacology.

A. Yes.

Q. I wasn't sure you -- you gave the full explanation difference between those. I wanted to ask you what your understanding is of somebody who has a Ph degree in pharmacology.

A. So it's a great point. M.D., PharmD, are clinical, professional degrees at a doctorate level. Ph.D. is completely different. It is a doctor of philosophy that is not considered clinical, but someone who is developing the skill set for advanced research.

So someone who may spend the rest of their career studying just the cannabinoid receptor in the back portion of the brain, someone very niche, but not someone we typically see involved in patient care or any clinical application, unless, in fact, that person was an M.D. or a PharmD first and then went and got the advanced research training. But would not consider them a clinician.

THE COURT: One question I have, Doctor. This -- this is related to pharmacology or -- or just your understanding of

these medications. Do they need to be maintained in any particular way?

THE WITNESS: They do.

THE COURT: Would it concern you if the person maintaining them didn't have any experience with them at all?

THE WITNESS: No. The manufacturer states very specifically storage conditions, storage procedures if they're unique. I did review that in this particular case. All of the medications are storable and transferrable at room temperature.

There was one, the cisatracurium, and it should be stored, be roughly in refrigerated conditions, so between -- the FDA considers that between mid 30s, 40s. And then it's stable -- so this is an imperative statement. It's stable at room temperature for outwards of three to four weeks, and it's right in the manufacturer's guidelines.

THE COURT: Okay. But -- so when you say it's in the manufacturer's guidelines, where would you find those?

THE WITNESS: They're publicly available. They come with the product, FDA-approved package inserts. We call them "origami." When you get your shipment of medications, there's a folded piece of paper there that when you unfold it, no kidding, can be the size of this Plexiglas that includes everything that would be on potentially a six, seven-page document. Like the ones I've included as my exhibits which were direct prints. So it comes with the product, and it's available online and in many

pharmacy references.

THE COURT: And so the -- but you would need to maintain the medications pursuant to that particular instruction.

THE WITNESS: Correct, as would be with any pharmaceutical --

THE COURT: Right, I understand that. And so it would be important for whoever was going to be responsible for transporting/storing these medications, for that person to be familiar with what's in that insert that you describe.

THE WITNESS: Yes. However, in this particular case my understanding is the product transfers --

THE COURT: Okay. Well, again --

THE WITNESS: Yes, it would.

THE COURT: Okay. I'm going -- because I'm going to ask you about the -- the insert itself in a moment, but in terms of these medications themselves, that insert and that information is where you would look to understand how to store them and how to transport them.

THE WITNESS: And many other points of online reference and text references for individuals that do that job.

THE COURT: Okay. And so you could find them in the inserts or on other, sort of, online reference points, you say.

THE WITNESS: Yes, sir. So it comes with the product and in many other sources.

THE COURT: Okay.

And if they're not stored properly, would that and could that impact their efficacy here?

THE WITNESS: It could, as I just described, with one particular product in the protocol.

THE COURT: Okay. I'm sorry. And just, again, for the record, which one?

THE WITNESS: All -- cisatracurium.

THE COURT: Okay. So as it relates to, sort of, fentanyl, alfentanil, and ketamine, you're saying they don't have to be maintained in this -- in a certain way?

THE WITNESS: And potassium. I didn't hear you add potassium.

THE COURT: I didn't add -- so they don't have to be maintained in a particular manner, so they can be kept at room temperature?

THE WITNESS: Exactly.

THE COURT: Okay. But if they're allowed to get too hot or too cold, could that affect them?

THE WITNESS: Each one will state its outer parameters, but those numbers are really based on product stability, the actual chemical itself.

THE COURT: So, in other words, you'd have to know, basically, sort of the tolerance. But for the most part they can be stored at room temperature, those three drugs. And if

for some -- I guess it was --

THE WITNESS: You're right. You're right. Well, alfentanil.

THE COURT: Yeah, you're right. So fentanyl, alfentanil, ketamine, and cisatracurium. Those four drugs --

MR. GILMER: Potassium.

THE COURT: Potassium, there you go. Thank you. Potassium those four drugs can be stored at room temperature, and they may have tolerance limits in terms of their efficacy at, sort of, the higher end of the temperature spectrum or at the lower end.

THE WITNESS: That is correct.

THE COURT: So, for example, it's a really, really cold day today here in Las Vegas. If I were to leave them out and they were to freeze, would that potentially affect them?

THE WITNESS: You'd have to answer that on each specific one.

THE COURT: Okay. So you would have to know the particular drug, but it could potentially affect it depending upon what the specific parameters were for each of the drugs.

THE WITNESS: Yes, as with any medication.

THE COURT: Right. Okay. Thank you.

BY MR. GILMER:

Q. And the Court asked wonderful questions, as always, with regard to the ones that are kept at room temperature, those four

drugs -- five drugs, because there's two different potassium options. Before he asked -- before the Court asked that question, the question -- you answered about cisatracurium and said that that had to be kept refrigerated, but that it would remain stable, I think, for up to three to four weeks. Is that what you said?

A. Its recommended storage is refrigerated, but it is stable at room temperature for three to four weeks.

Q. And what does that mean, "stable at room temperature for three to four weeks"?

A. That means still at a dosage and potency level capable for use. That -- the way the FDA says that is you can never say that it's declining all the way to the point of zero or you would have no confidence in when to stop using it. So even drug expiration dates as an example, the product is perfectly fine at that date and well past. That's an end marker.

Q. So then, hypothetically, if the cisatracurium was moved from the Central Pharmacy in Las Vegas and not refrigerated or not put in a cooler and -- and transported to Ely, as long as it's used within three to four weeks out of refrigeration, it would still be stable and effective?

A. Yes, per the FDA and the manufacturer's research data.

THE COURT: So long as it's not exposed to extreme temperatures.

THE WITNESS: I would agree.

THE COURT: Right.

BY MR. GILMER:

Q. And for the extreme temperatures, you'd have to look, again, at the inserts and figure out exactly what that may or may not do to the product?

A. Correct. And it raises a good point is that the manufacturers are required to disclose that information so that if there is a question, that it's publicly accessible. So I could find that information out, but the labeling specifically says stable for three to four weeks at room temp.

THE COURT: And in the pharmacy is it -- is it typically the pharmacist's job to oversee the conditions of the drugs and how they're maintained and to be aware of the particular drugs and their tolerances?

THE WITNESS: Sure. Pharmacy technicians are also skilled at doing that and being aware of the importance when an inventory comes in. Making sure -- there are some drugs that go the other way. Biological agents and very new medications that have temperature tracking the whole way. So there's also an importance of looking at those to see that the transit time maintained a particular level, so ...

THE COURT: Because they may be more sensitive to temperature fluctuations.

THE WITNESS: Many of those are.

THE COURT: Yes. Thank you.

MR. GILMER: I have one area -- one additional area of inquiry I'd like to get into. However, before I do, I just for the -- for purposes of the record and I appreciate and understand the Court's ruling on the issue pertaining to alternatives, it's our position that since the experts on plaintiff's side did not proffer any alternatives during their deposition testimony, that it would be -- and it would be improper to seek the testimony our experts now.

That being said, because I won't have another opportunity to ask you questions about it, I am going to ask questions pertaining to it. And if there is a change in the ruling at any point in time either by this Court or an appellate Court, we would ask that the entirety, including my questions as well as plaintiff's questions on that issue, be stricken from the record.

THE COURT: I'm sorry. Was there a question?

MR. GILMER: Yeah, I'm getting to the question now. Sorry, I was just putting the record on first.

THE COURT: I want to make sure I didn't miss it, Mr. Gilmer.

MR. GILMER: No, no. I understand. I just wanted to make sure I had the right exhibit number, Your Honor.

THE COURT: All right.

MR. GILMER: Mr. Levenson, would you be so kind to put Exhibit 204 up for me, please. This was one of the impeachment

exhibits that I believe the Court admitted.

(Pause.)

MR. GILMER: And I think I need -- I need Page 2, Mr. Levenson, where it says what drugs are used in assisted dying, if you can get that portion up.

Little further so I can see the title, what drugs. Thank you very much.

BY MR. GILMER:

Q. Dr. Buffington, I'd like to direct your attention to the fourth paragraph of that section. And if you can read that paragraph in full, it's two sentences for the record, please.

A. Yes. It says: "An overdose of barbiturates is fatal. A large dose will effectively make the brain slow down to a point where it stops telling the body to keep the respiratory system working, and breathing ceases."

Q. Is that respiratory depression?

A. That's exactly what it's describing. There -- respiration is controlled and mediated in a center, in the brain. And that's what this is referring to is that CNS depressants reduce the efficiency of that center to the point that the control of the lungs, the diaphragm, and muscles are negatively affected progressively.

Q. And so all of the discussions that we had pertaining to respiratory depression and what might occur with respiratory depression as it relates to an opiate, fentanyl or alfentanil in

this case, would they apply equally in this circumstance?

A. Yes.

Q. And when you were giving that opinion, you're giving that an a pharm -- based upon your training as a clinical pharmacologist and PharmD, correct?

A. Training and professional experience, yes.

Q. And so that's based upon the pharmacology of the medications themselves.

A. Correct.

Q. And how they --

THE COURT: What is, I'm sorry, because you're -- what is exactly? His opinion --

MR. GILMER: His opinion.

THE COURT: -- that the barbiturates cause respiratory depression?

MR. GILMER: Yes.

THE COURT: Okay.

MR. GILMER: I just -- because there's been some discussion as to whether or not he's a doctor or not. So I was just making sure that it's his standard of care to know that as --

BY MR. GILMER:

Q. Based upon your knowledge of the drugs from a clinical pharmaco standpoint that barbiturates, just like fentanyl, could cause respiratory depression.

A. It's their major side effect, yes.

Q. There was also some discussion, and Dr. Zivot discussed pulmonary edema. You discussed that as well. Would you expect the same impact to occur with barbiturates causing pulmonary edema that we had discussed pertaining to the use of fentanyl or ketamine here?

A. Yes. And, also, the lack of relevance because it --

THE COURT: Was that based upon you having read something? Because I don't think, I will tell you honestly, Dr. Buffington, that that's within your realm of expertise. But if you're saying that you read that somewhere, then I would let you talk about it that way. But I think this is pushing the bounds of what you're been admitted, at least by me, as an expert for. We would have to go into more detail in order for that to be allowed.

But if you're saying that you've read that pulmonary edema is associated with that, that would be helpful, but as I understand it, that's not something that you treat or address. So have you read studies that say that barbiturates also are associated with pulmonary edema?

THE WITNESS: Yes, sir. There's numerous, and I could provide them to the Court, and it is something we treat. There are three medications that we typically do for --

THE COURT: Well, here's what I'm saying. I want to be careful about your clarification about what treat and what you

don't treat in reading the statute, right. I don't understand having read the statute and looking at those statutes that you are a treating provider in the sense that a layperson and the Court would understand it. Now, that's not to say you don't participate in treatment, which I think is also identified in the statute. But I think there is a difference and there's a difference in terms of opinion as it relates to a medical opinion as to someone who the Court understands to be, sort of, directing treatment or primary care or someone who is part of the treatment team, which I think clinical pharm -- pharmacologists are.

So when you say "treat," I'd want you to be careful because that's how I'm using the term here. It's not to say that you don't consult with primary care physicians or even specialists about that. But it is to say that, as I read your C.V. and read the statute, it's not within your expertise to be -- to be the primary care or the primary doctor who would be asked to treat pulmonary edema.

THE WITNESS: So I'm not sure if the question is related to perception of prescribing or who is directing the decision making of which medications are used to effectively resolve a problem.

THE COURT: Well, let me put it this way. I don't think that, in terms of what I have been provided, that you could offer an expert opinion as it relates to treatment as a

primary care or a doctor who would be in charge of treating pulmonary edema. That's not to say you wouldn't be consulted as to what might be creating pulmonary edema based upon medications which I think would fall within the expertise that's before me on the record here.

Whether or not you actually have expertise is not something that I'm going to get into now, because that's not the record that I have. So what I'm saying is I'm asking you to limit your testimony to your expertise, which I think you have related to what you have read and what you understand based upon your work as a -- as a clinical pharmacologist. I just think when we use the word "treat," it's -- it can involve lots of different meanings, and we don't need to do that to get your -- your expert opinion in the area that I have identified that you could be an expert in, which is the issue of medications.

And so what I want you to do is talk to me about which medications then -- to go back to the actual question, which medications, then, are associated with pulmonary edemas that you have discussed and are a part of our discussion here. So barbiturates?

THE WITNESS: Opiates.

THE COURT: Opiates. And also you said I think it was fentanyl or alfentanil, or no?

THE WITNESS: Those are the opiates.

THE COURT: Okay. Sorry.

THE WITNESS: Yes, and then the dissociative analgesic, which is ketamine.

THE COURT: Okay. But not -- what were the other end-of-life drugs that you were talking about? What about pentobarbital?

THE WITNESS: We weren't talking about that.

THE COURT: Okay. All right.

THE WITNESS: So there would be -- in the protocol would also be cisatracurium. And the answer would be, no, not as a primary.

THE COURT: Okay.

THE WITNESS: And then the final, potassium chloride, the effect that's done there is so rapid that it wouldn't be -- it wouldn't be inducing a duration of respiratory depression that's going to produce pulmonary edema.

THE COURT: Got it. Perfect. Thank you.

MR. GILMER: Your Honor, which drug did you ask about that he said we weren't talking about? I want to make sure I heard you correctly.

THE WITNESS: Pento.

THE COURT: Pento, yeah.

BY MR. GILMER:

Q. That is a barbiturate, correct?

A. Right, but we weren't talking about it specifically in the protocol.

THE COURT: Right.

MR. GILMER: I understand, but I think that's an important point, though, that the Court asked. When I -- because I did ask specific about barbiturates.

BY MR. GILMER:

Q. So if -- if it's pentobarbital, which was one of the drugs, again, that they specifically referenced during their testimony -- their direct of you, would that also be something that, based upon your pharmaco -- understanding of the pharmacology and toxicology of that drug, something that -- a side effect of that drug, injectable, is also to cause pulmonary edema?

A. Yes, well documented in the medical literature.

Q. So if I can summarize, then, from a pharmacology and toxicology perspective, the same concerns that plaintiffs raised pertaining to fentanyl and alfentanil and ketamine also apply to the barbiturates that they discussed with you?

A. Yes, including size of dose and rate of administration.

Q. So going back to the Court's question, then, about if you had to choose between these two, is that part of -- even though that's been constitutionally approved to be used before, is that part of why you answered the Court in the way you did pertaining to why this protocol would be prefer -- preferable over the single barb?

A. Yes. From a protocol-design perspective, that's correct.

Q. And what about the protocol-design perspective makes it better?

A. As previously stated, rapidity, the speed to which the endpoint, the multi-pharmacologic pathway. You have not one path that you're depending upon getting to that point. And the confidence level in the dosages being administered in the protocol.

Q. And, Dr. Buffington, they also asked you a little bit about availability of those drugs. And please correct me if it's the wrong court, but I believe it was the same court in Ohio where they eventually -- they had found you to be an expert, but then they struck you for a different type of violation.

Did the Court ask you in that case whether or not you were able to locate pentobarbital from any source?

A. If I recall, it may have been there and an Alabama case. And I did go back and talk to colleagues that I knew had compounding specific and had done that in the past and asked, per the judge's request, could that be done. And no one was willing to do that for those cases at that time, and part of the answer was lack of anonymity.

Q. And do you recall how many people you reached out to during that time?

A. I don't. I think it was close to ten different vendors.

Q. And when was -- do you remember the timeline on that?

A. I sure don't. I think it's been within the last five.

Q. Okay. Thank you. Yeah, I was going to ask for an estimate. Within the last five years?

Do you have any reason to believe that that medication would have become easier to obtain from those ten -- ten sources in the last five years?

A. No. Harder given the media surrounding the issue.

Q. And you said that one of the issues mentioned to you was the anonymity and secrecy concerns that they -- that they couldn't do it confidentiality?

A. Correct. It can be compounded. It's just finding a vendor that will for a state.

Q. Did they tell you why that's a concern for them, not being able to remain anonymous?

THE COURT: Mr. Gilmer, I think we're going beyond what we need to in this context.

MR. GILMER: Okay.

I have no further questions. Thank you, Dr. Buffington.

MR. LEVENSON: Just a couple of questions, Your Honor.

RECROSS-EXAMINATION OF DANIEL BUFFINGTON, PHARMD

BY MR. LEVENSON:

Q. Dr. Buffington, do you have any information on how the drugs will be transported from Las Vegas to Ely?

A. No, I did ask and it was with standard pharmacy procedures, was the answer.

Q. And -- and who said that to you?
A. Deputy Gittere.
Q. And what are those standard pharmacy procedures? Do you know what they are?
A. Yes.
Q. And what are they?
A. They would be to consult and know what products are being transferred, the transfer conditions for those products, and then the conveyance of those products at Ely State Prison.
Q. Are you aware of the testimony of the manufacturer of cisatracurium that led to a court finding that the cisatracurium was possibly compromised in 2018 when it was being delivered from Las Vegas to Ely?
A. No, sir. Can you read me the description?

Sorry.

Can you give me the description?

MR. GILMER: And, Your Honor, I'd just also like to object to relevance for a couple of reasons. One, it's a previous thing that actually occurred and not talking about what actually happens. And, secondly, the cisatracurium we have presently is not the same manufacturer that was involved in that litigation. So I'm not sure how that manufacturer's perspective would change with regard to what the drug is here.

THE COURT: Well, if we have specific information about what was the method by which the -- the medicine or drug was

compromised, that I think would be helpful. Otherwise, I don't think it's relevant just generally.

So do you have -- if you want to ask a specific question about, sort of, the means by which the particular batch of cisatracurium was compromised, Mr. Levenson, I think that would be appropriate.

MR. LEVENSON: Could we bring up Exhibit 154, please.

BY MR. LEVENSON:

Q. Are you aware in 2018 the cisatracurium was brought up in a car between Las Vegas and Ely, Nevada, by former director of pharmacy, Linda Fox?

A. No. Was it in a cooler or room temp?

Q. It was in a cooler. And then the Sandoz found that the product had been compromised.

A. How did they determine that?

THE COURT: Well, let -- let me ask this question, Dr. Buffington, because I think the back-and-forth is not necessarily going to be helpful. But, obviously, the manufacturer's providing information about what's the best way to transport their medication, correct? And that's -- those are the directions that should be followed, right?

THE WITNESS: Which that would not have compromised.

THE COURT: Well, the other question I have, if the manufacturer believes that the methodology used compromised it, wouldn't they be the best people to make that determination?

THE WITNESS: Only if they determined at the end of the stability -- the testing that the stability was compromised.

THE COURT: Right. But I'm saying, wouldn't they be the best source for determining whether or not their own medication was compromised?

THE WITNESS: That's what I'm trying to discern with the minimum that I've been given.

THE COURT: I'm saying -- generally, you're saying that the pharmacist should rely upon the information that the -- that the manufacturer provides. If the manufacturer says to you, right, that that's -- "the method you used is not appropriate for our medication and it was compromised," why wouldn't you rely upon that? I'm trying to understand why you wouldn't rely upon that.

THE WITNESS: Oh, no, it's a great question. I want to see the integrity of their statement. It was simply that it was transported by car, that's capable within their printed guidelines with the FDA. If they said they tested the stability at the end and the product was negatively impacted, now that's an issue. But not just how it was transported.

THE COURT: Well, if there's -- well, I guess my -- my other question, actually, which is unrelated to this was, did you talk to anyone in the pharmacy department at NDOC about the drugs and how they're maintained?

THE WITNESS: No, I saw the testimony of Ms. Fox

previous.

THE COURT: Right. But Ms. Fox doesn't work there anymore, right? You're -- you know that?

THE WITNESS: I understand and I saw the other testimony as well.

THE COURT: Did you talk to the acting director?

THE WITNESS: No.

THE COURT: Have you talked with her at all about how these medications are stored?

THE WITNESS: No, it was Deputy Director Gittere who stated they would use the pharmacy process.

THE COURT: Right. So you haven't had any contact with anyone in the pharmacy department about how these medications are maintained or how they'd be transported?

THE WITNESS: That is correct.

THE COURT: All right. Thank you.

MR. GILMER: Your Honor, I'd -- I'd also like to note, again for the record, I started my objection, what the -- what Mr. Levenson is showing the Court right now is a findings of fact and conclusions of law and not actual Mr. Wallace's testimony. It also says transport and storage, and I noticed --

THE COURT: So what I'm going to --

(Court reporter admonishment.)

THE COURT: -- is I'm going to go ahead and sustain the objection based upon what Dr. Buffington has already

testified --

MR. GILMER: Thank you.

THE COURT: -- to, but I'm going to allow him what he said in response to the questions that I asked. Because I do think asking him to comment on a finding of a court wouldn't be appropriate, but the further information he provided I think was helpful.

MR. GILMER: Thank you, Your Honor.

THE COURT: All right.

BY MR. LEVENSON:

Q. Dr. Buffington, are -- are you aware of former Attorney General Barr's comment that pentobarbital is readily available?

A. To Barr? It may be to Barr.

Q. So it would be readily available for executions.

A. If it's available to Barr.

MR. GILMER: Objection, Your Honor.

THE WITNESS: But the question would be is it available to the Nebraska -- or, I'm sorry, Nevada.

THE COURT: So state the question again.

BY MR. LEVENSON:

Q. Are you aware of former Attorney General Barr's comment that pentobarbital is readily available?

MR. GILMER: And I'm going to place an objection, Your Honor.

THE COURT: Sustained.

BY MR. LEVENSON:

Q. Dr. Buffington, were you during Kathryn Lopez-Chirino's trial testimony?

A. Yes.

Q. And don't you have the same PharmD degree as she has?

A. Yes.

MR. LEVENSON: No further questions.

MR. GILMER: Nothing further, Your Honor.

THE COURT: All right.

So while Dr. Buffington is here, are there specific requests you'd like to make of him? I'm not saying that I'm going to agree to them, but let's get them on the record so we can address them and let Mr. Gilmer respond to them.

MR. LEVENSON: So I think we would like to have a copy of his database. There was testimony about the timing of how long an execution using a barbiturate would take. And because I would assume on his database there would be all of the Texas executions, and there are anywhere from five to 13 a year, and the 13 executions that recently took place by the Federal Government, that would show the timing of those executions versus the timing of other executions using lethal injection drugs.

THE COURT: I'm sorry. Are you saying you don't have access to this information otherwise?

THE WITNESS: I don't have his database and, actually,

I don't know whether there is a database. I don't believe D Pic (phonetic) has that.

THE COURT: Yes, I don't think that that's relevant to get from Dr. Buffington, specifically. It seems that this information would be available from other sources.

What other requests would you have, Mr. Levenson?

MR. LEVENSON: Just a moment, Your Honor.

(Plaintiff's counsel conferring.)

THE WITNESS: I can give you the source.

THE COURT: Okay. I appreciate that. I'm just saying that I don't think it's going to be efficient for you to go into the database to pull the information out.

THE WITNESS: It's publicly.

MR. GILMER: Well, and, Your Honor --

THE COURT: It seems to me that the information is public and would be available. And if it's not, if there's something special about the information that Dr. Buffington has, then we can come back to that. But for now, I'm not going to order that.

So what other requests would you have, Mr. Levenson?

MR. GILMER: Do I need to make a record on that? I understand that Dr. Buffington has been very helpful, but I still would have some objections to the extent that -- if we come back. But I can save them if we have to come back.

THE COURT: I'm not ordering it, so I don't think --

MR. GILMER: I understand. I just wanted to make sure I didn't need to bring it up now.

MR. LEVENSON: Nothing else for Dr. Buffington.

THE COURT: All right. Thank you, Dr. Buffington, for your time. I appreciate it.

THE WITNESS: Thank you.

THE COURT: Safe travels.

All right. Are we ready for Dr. Yun?

MR. GILMER: I am fine to begin with Dr. Yun. Obviously, we probably won't finish, but we should use the time, assuming Dr. Yun is ready to go. It looks like he is.

THE COURT: Looks like he is.

MR. LEVENSON: Your Honor, will we be discussing the request for judicial notice that we had made on those statutes or will we be doing that after Dr. Yun?

THE COURT: Yes, and we can do that any time. That's just part of discussion and argument. So I don't think we need to use up this valuable time we have Dr. Yun for now.

MR. GILMER: Are we ready to --

THE COURT: Well, we have to -- we're going to have to swear Dr. Yun in.

MR. GILMER: Yes.

THE COURT: Dr. Yun, can you hear me?

THE WITNESS: Yes.

THE COURT: Okay. Could you please raise your right

hand.

STEVE CHONG YUN, M.D., having duly been sworn, was examined and testified as follows:

THE COURT: Okay. You also understand that even though, Dr. Yun, you're appearing by video, you are nonetheless subjecting yourself to the jurisdiction of this Court. And that means that to the extent that there would be any issues or the Court might need to find you in contempt, I'm not saying that I would, that you understand you're consenting to that by participating to videoconference, the Court's jurisdiction that is.

THE WITNESS: Yes.

THE COURT: Okay. And, again, that's not to say that I would make that determination, Dr. Yun, but it is to say that when someone testifies by videoconference, they need to be fully aware of the fact that they can still be subject to potential contempt proceedings even if they're not appearing in person. And I just have to clarify that for the record. Do you understand that?

THE WITNESS: Yes.

THE COURT: All right.

Are we good, Blanca? I had a little bit of -- okay.

Go ahead, Mr. Gilmer.

MR. GILMER: Thank you.

DIRECT EXAMINATION OF STEVE C. YUN, M.D.

BY MR. GILMER:

Q. Just one -- Dr. Yun, you have the thumb drive with the exhibits that we provided to you so you would be able to pull those up on your computer, if necessary?

A. Yes.

(Court reporter interruption.)

THE COURT: So, Dr. Yun, if you have a phone that's near the microphone for your laptop, you might want to move that. I'm not sure that you do, but either you or someone else might who's on the phone.

THE WITNESS: Okay.

THE COURT: All right. You're good. Thank you.

Go ahead, Dr. Yun.

MR. GILMER: Did we lose -- is Dr. Yun still there?

THE WITNESS: Yes, I'm still here.

MR. GILMER: I think maybe the phone was his camera, Your Honor.

THE COURT: Oh.

THE WITNESS: Yeah, I am here.

THE COURT: All right. Let's try it this way and see what happens. Otherwise, we may have to make adjustments.

BY MR. GILMER:

Q. Thank you, Dr. Yun. I believe you may have already been asked to state your name for the record, if that's -- I may have

missed it. Can you please state your name for the record, please?

A. Yes. My name is Steve Chong, C-H-O-N-G, Yun, Y-U-N.

Q. And you provided a copy of your C.V. to us in this case. Is that correct, Dr. Yun?

A. Yes.

Q. And I -- it's going to be Exhibit 517 if you --

MR. GILMER: Can we share a screen with him? That's probably easier than him trying to find them.

THE WITNESS: I have it on the thumb drive and I see it, yes.

BY MR. GILMER:

Q. Okay. Great. And so this is a copy of the C.V. you provided to me.

A. Yes.

MR. GILMER: I'd like to ask that the C.V. be admitted, Your Honor.

MR. LEVENSON: No objection.

THE COURT: All right. That will be admitted.

(Defendant's Exhibit 517 is admitted.)

BY MR. GILMER:

Q. And in addition to the C.V., Dr. Yun, after your deposition -- during your deposition, you agreed to provide a copy of an additional list of places where you had worked and we provided that to opposing counsel. Do you recall that list?

It's dated November 6th, 518. I just pulled this up. Is that correct, Your Honor -- or Dr. Yun?

A. Yes.

MR. GILMER: I'd also ask that 518 be admitted as a supplement to his C.V. based upon a request from plaintiff's counsel.

MR. LEVENSON: No objection.

THE COURT: That will be also be admitted.

(Defendant's Exhibit 518 is admitted.)

MR. GILMER: And while we're at it, Your Honor, so we can maybe get through these quickly. In addition to the C.V., there's a copy of Dr. Yun's fee schedule at Exhibit 517 A, his rebuttal report at 519, and his actual -- and his first report that was provided as an expert witness as at Exhibit 516. I would ask that each of those documents be admitted as well.

MR. LEVENSON: No objection.

THE COURT: Those will also be admitted.

(Defendant's Exhibits 517 A, 519, and 516 are admitted.)

MR. GILMER: And while we're moving along, also 520, which was a case report that was attached to Dr. Yun's rebuttal report, be admitted at Exhibit 520.

MR. LEVENSON: No objection.

THE COURT: That will also be admitted.

(Defendant's Exhibit 520 is admitted.)

MR. GILMER: And, finally, a report that was also attached that he relied upon, even though it's actually a plaintiff's exhibit. So I did not reference it in mine. We may have actually introduced yesterday, I believe, the Streisand exhibit. I believe that was admitted yesterday, so we don't need to get to that now. Thank you.

BY MR. GILMER:

Q. Thank you, Dr. Yun, as we got through that housekeeping.

Can you please provide to us -- and I know we have your C.V. Just briefly, if you can tell us what your current employment is.

A. Yes, I have a full-time clinical practice in which I personally provide anesthesia services to dental offices, oral surgery offices, and surgicenters and medical hospitals.

Q. And does that mean -- can you -- you indicated that you provided anesthesia services. Are there any other duties that you have as part of that job?

A. Yes, I do have some administrative duties. I am the medical director of a surgery center in Beverly Hills, and then I also have some other professional activities including being an accreditation inspector for the American Association for the Accreditation of Ambulatory Surgical Facilities. I'm also an expert consultant for the Dental Board of California.

Q. And what are your duties as medical director -- is that the Beverly Hills Integrated Center? Is that the name of the

company?

A. It is the Beverly Hills Integrated Surgery Center, yes.

Q. Thank you.

And what are your duties as medical director?

A. There I primary serve an administrative role, currently, where I help the facility with maintaining and keeping up with the accreditation standards required for a facility that is accredited by an organization.

Q. And is that -- you said that's your current position. Have you also performed anesthetic services at that center?

A. Yes. I personally performed anesthesia services at that center for approximately four to five years. However, in the last two years, my role has been primarily administrative.

Q. And what types of surgeries are performed at that center, or more specifically, what types of surgeries did you participate in?

A. (Pause.)

I believe your question was what type of surgeries are performed at that center, and they're primary orthopedic surgeries involving administration of anesthesia for shoulder, knee, and elbow surgeries.

Q. And did I see something on your resumé or in your deposition that you work with the L.A. Lakers from time to time?

A. More specifically and to clarify, I work with Dr. Daniel Kharrazi, K-H-A-R-R-A-Z-I, who is the former team physician for

the Los Angeles Lakers.

Q. And what do you do for Dr. Kharrazi? Do you provide anesthetic services for Dr. Kharrazi and his patients?

A. Correct.

Q. I'm assuming for his patients. I don't think we want Dr. Kharrazi to be under anesthetic while he's seeing patients, so ...

A. Correct.

Q. You mentioned that you provide anesthesia to dental patients. Can you describe that process? Is this done in a dental setting? In an office setting? Can you describe that process for the Court?

A. Yes. There's actually quite a need and demand for anesthesia services in the dental or oral surgery office setting. There are many patients who, for a variety of reasons, either because of their young age, because of their frail medical condition, or because of psychological phobias, regardless of their condition, there are a number of patients who require deeper levels of anesthesia than what a dentist can normally provide.

And so what I do is actually provide hospital-type anesthesia services in a mobile portable unit and deliver hospital-type anesthesia to patients in dental and oral surgery offices in the Orange County, California, area.

Q. Can you describe for the Court what this mobile equipment is

that you use in this setting.

A. Yes, it's basically a smaller portable version of the same equipment I use in the hospital operating room. So I bring with me an anesthesia monitor so that I can track all patients' vital signs. I bring all of the emergency drugs and equipment, including the defibrillator. I also bring a portable anesthesia machine, breathing machine, so that I can intubate patients, that is place an advanced airway, and deliver oxygen and nitrous oxide and even hospital anesthesia gases to them in a controlled safe manner.

So, in essence, I basically bring the hospital operating room to the dental office setting.

Q. And, Dr. Yun, do you use fentanyl in this setting?

A. Routinely.

Q. When you say "routinely," can you give us a little bit better description as to how often, perhaps, on a daily basis or weekly basis, whatever's easiest?

A. Yes, almost every day.

Q. And do you also use alfentanil?

A. Yes.

Q. And how often would you say that you use alfentanil?

A. In approximately 70 percent of my cases, I will use alfentanil as well.

Q. So then it's fair to say, then, would that be a weekly occurrence as well, then, or daily occurrence?

A. Yes.

Q. Which one? I asked two questions and that was bad of me. Would that be more daily or more weekly?

A. It's variable. There are some weeks where I will use it almost daily, and then there are some weeks where I'll only use it maybe once or twice that week. My caseload varies considerably. But, in general, I would say then in about 70 percent of my cases, I do use alfentanil.

Q. Okay. And do you also use ketamine in your practice?

A. Yes.

Q. And how often do you use ketamine in your practice?

A. As a rough estimate, in approximately 30 percent of my cases I will also administer ketamine.

Q. And we'll probably get into this more later, but do you use fentanyl and ketamine ever combined?

A. Yes, routinely.

Q. Same thing with alfentanil and ketamine?

A. Yes.

Q. Do you ever use cisatracurium in your practice?

A. Rarely, but I do use it.

Q. Okay. And how about, do you ever have a need to use potassium chloride or potassium acetate?

A. Never.

Q. Have you used them previously in your training and experience?

A. Yes.
Q. So you have the training and experience as an anesthesiologist to be able to discuss what those medications do?
A. Yes.
Q. Where did you attend college?
A. The University of Wisconsin in Madison.
Q. And what degree did you receive?
A. A bachelor's of science.
Q. And did you attend medical school?
A. Yes.
Q. And where did you attend medical school?
A. I received my medical degree from the University of Southern California.
Q. And what -- did you receive an M.D. or a D.O. from that program?
A. M.D.
Q. Any other degrees that you possess other than your bachelor's from the University of Wisconsin or your M.D. degree from USC?
A. No.
Q. Did you complete an internship?
A. Yes.
Q. And what was your internship in?
A. General surgery at the University of Illinois Chicago

Medical Center.

Q. And after your internship, did you also complete a residency?

A. Yes, I finished a residency in anesthesiology at the University of California Los Angeles Medical Center.

Q. Is there any other education that we haven't discussed today that would be relevant to issues pertaining to the drugs in this lawsuit?

A. Not specifically. Like any other physician, I am required to have a certain number of continuing medical education credits per year, and so I routinely take classes and conferences, but I can't think of anything specific as it relates to this case at this time.

Q. Thank you, Doctor.

And do you hold -- currently hold medical licenses in ...

A. Yes.

Q. In what states or state?

A. My primary State of California. I also have a valid medical license in Wisconsin, and I also believe in Utah.

Q. Are you board certified in any specific specialty?

A. Yes. I'm board certified by the American Board of Anesthesiology.

Q. Do you have any current academic appointments?

A. Yes. I'm a clinical professor at the Western University

School of Health Sciences in Pomona, California. I'm also a lecturer at the Loma Linda University School of Dentistry.

Q. And what do you -- what classes do you teach at those locations, if classes is the right term? If not, you can correct me.

A. At the Western University School of Health Sciences, I take approximately three or four medical students a year who are assigned to follow me as part of their anesthesia clerkship. And so three or four students a year, each student will either do a two or four-week clinical anesthesia rotation with me learning about the fundamentals of anesthesia.

In addition, I regularly give lectures in anesthesia and sedation specifically to the Department of Pediatric Dentistry at the Loma Linda University School of Dentistry in California.

Q. Do you currently have any professional appointments? I think you may have mentioned a couple already. But are there any other professional appointments that you would like to mention to us?

A. I mentioned already that I'm accreditation inspector for AAAASF. I'm also an expert consultant, as I mentioned, for the Dental Board of California. I'm the medical director at the Beverly Hills Integrated Surgery Center. And then I am a district delegate for the California Society of Anesthesiologists.

Q. Thank you.

And did you have your deposition taken in this case as well, Dr. Yun?

A. Yes.

MR. GILMER: And that deposition, Your Honor, is Plaintiff's Proposed Exhibit 127, and I would ask that that be admitted for the record.

MR. LEVENSON: No objection.

THE COURT: That will be admitted.

(Plaintiff's Exhibit 127 is admitted.)

MR. GILMER: At this time, Your Honor, I would ask that Dr. Yun be recognized as an expert in anesthesiology.

MR. LEVENSON: No objection.

THE COURT: The Court will so recognize him.

BY MR. GILMER:

Q. Dr. Yun, have you been retained by my office as an expert for purposes of this litigation?

A. Yes.

Q. And what rate do you charge as an expert witness?

A. $500 per hour for review of documents and consultation, $750 per hour, I believe, for deposition, and then my daily rate for courtroom testimony is $6,000 per day.

Q. And are these your standard rates that you -- that you charge in all litigation cases that you're retained as an expert?

A. Yes.

Q. So my office is being charged the same as you charge everyone else.

A. Yes.

Q. Have you been recognized as an expert witness by other courts?

A. Yes.

Q. Dr. Yun, do you -- in the practice as an anesthesiologist, do you consult with PharmDs as part of your practice?

A. I have, yes.

Q. And what is the purpose of consulting with a PharmD?

A. Well, there is a plethora of new medications, complicated medications, that can have a number of dangerous interactions and side effects --

MR. LEVENSON: Your Honor, I --

THE WITNESS: -- and --

MR. LEVENSON: I'm sorry. I'm going to object. I don't believe this was in the Rule 26 report.

THE COURT: That -- that's fine. I'll allow it. Overruled.

BY MR. GILMER:

Q. You can continue, Doctor.

THE COURT: Go ahead, Doctor. You can continue.

THE WITNESS: Sure. So in those cases where there may be a question as to the drug and potential interactions, perhaps

even dosing or side effects, I have in the past consulted or asked the advice of a PharmD.

THE COURT: Dr. Yun, have you done that in the context of your use of fentanyl or ketamine?

THE WITNESS: No, not really. Fentanyl and ketamine are fairly basic drugs for anesthesiologists that we're very familiar with. And so I have not had the need to consult a PharmD as to the use or side effects of those two drugs.

THE COURT: All right. Thank you.

BY MR. GILMER:

Q. And, Dr. Yun, have you had an opportunity to review the execution protocol in this case?

A. Yes, I have reviewed it at one time.

MR. GILMER: And, Your Honor, I think this is a bookkeeping matter. We made those changes and so I don't think we actually admitted it last time because we were going to make those changes that we provided to the Court. That's Defendant's Proposed Exhibit 501, and I would ask that it be admitted at this time.

THE COURT: This is the revised execution protocol?

MR. GILMER: Correct, Your Honor.

MR. LEVENSON: No objection.

THE COURT: Okay. That will be admitted. Subject, obviously, to confirmation that that's what it is, but that will be admitted.

MR. GILMER: Yes. Thank you, Your Honor.

(Defendant's Exhibit 501 is admitted.)

BY MR. GILMER:

Q. Dr. Yun, from your review of the execution protocol -- and this isn't meant to be a memory test. So if you need the protocol, we can put it up on the screen, but I was -- but without looking at the protocol first, do you have a recollection as to what drugs are contained in the NDOC protocol?

A. Yes, fentanyl and/or alfentanil, ketamine, cisatracurium, and potassium chloride or potassium acetate.

Q. And do you recall what the dosages were of each of those drugs in the protocol?

A. From memory, I believe that the fentanyl dose was 2,500 micrograms, alfentanil 25,000 micrograms, ketamine 1,000 milligrams, cisatracurium 200 milligrams, and I don't recall from memory the dose of the potassium solutions.

Q. Okay. And we can get to that later when it's important.

Do you recall the sequencing of the drugs as listed in the protocol?

A. Yes. I believe that the opioid, either fentanyl or alfentanil, would be given first, followed by the ketamine, followed by the cisatracurium, and then finally the potassium chloride or potassium acetate.

Q. And did you discuss each of these drugs in your expert

reports that you provided in this case?

A. Yes.

Q. And I'm going to put 516 on the -- or we'll probably be getting to 516 in a minute, so I'm just getting that ready.

THE COURT: I'm sorry. Are you asking a question about 516 or are you just getting it ready?

MR. GILMER: I'm just getting it ready, Your Honor. We'll be asking about it here in a moment.

And, actually, this is a great time to put it up. Sorry.

BY MR. GILMER:

Q. Dr. Yun, I'm showing what's been marked as Exhibit 516. Is this the report that you provided on August 11th, 2021?

A. (Pause.)

Q. Dr. Yun, are you still there?

A. Yes. I lost -- or did not hear your last statement.

Q. Oh, I'm sorry. I put on the screen Exhibit 516 which is -- which was admitted. This is your -- what I purport to be the report that you provided on August 11th, 2021.

Do you agree that this is that report?

A. Yes.

Q. Do you recall, without looking at the report -- although you can if you need to, just let us know. Do you recall the specific opinion or opinions I asked you to provide in this case?

A. From memory what I recall is I was asked to opine on the lethality and effectiveness of these drugs that were being proposed at the dosages being proposed. And, in general, my opinion is that these drugs at the very large doses being proposed would be effectively fatal in producing death in a given person.

Q. And, Dr. Yun, I just want to make sure. I think it's clear, but because you're via video, I just wanted to make sure. When you said the word, it was "lethality" not "legality"?

A. Correct, lethality.

Q. And, Dr. Yun, I'm going to show you what's -- Paragraph 1 of your report there. If -- if you can take a look at Paragraph 1 of your report, please, and confirm for me that that is your statement and that you stand by that statement.

A. Paragraph 1 beginning with, "Opioids and ketamine have been reliably used for decades"?

Q. Yes, your --

A. Yes. Yes, that is my opinion and statement.

Q. Thank you.

And if I'm looking at Paragraph 1, it says that in -- in your medical opinion they have been used reliably to achieve not only analgesia, but also unconsciousness. Is that correct?

A. Yes.

Q. And what do you base your opinion on that these two drugs or that these two categories of drugs, opioids and ketamine,

reliably cause unconsciousness?

A. My 20 years -- or over 20 years of experience as a clinical anesthesiologist in which I have used large clinical doses of opioids and ketamine, primarily for induction of anesthesia which oftentimes is a very stimulating process, especially when we have to place a breathing tube in a person's trachea. That is actually a very stimulating and painful event and, obviously, not something that people would want to be awake for under normal circumstances.

And so we have used -- or I have used opioids and ketamine to achieve that state of anesthesia so as to make the patient unconscious, unaware, and unresponsive to painful stimuli, not only the surgery, but also to basic anesthesia procedures such as intubation.

Q. Thank you, Dr. Yun. I want to breakdown the question that you asked there a little bit.

When you say that you've used opioids and ketamine to create this unconsciousness and unresponsiveness, is that using those drugs together, separately, or both circumstances?

A. I would say the majority of the time we use drugs in combination with each other. So opioids in combination with ketamine or propofol, et cetera. However, there have been a significant number of times where for various clinical reasons I relied only on opioids or I relied only on ketamine to induce the anesthetic.

Q. And so in those times, Dr. Yun, where you've used just opioids or just ketamine, do you -- do you also in those occasions find that it is reliable to cause unconsciousness and unresponsiveness?

A. Yes, very reliable. In fact, that's why we use them so often in anesthesia.

Q. And you mentioned that you use large doses of opioids. Can you give us an estimate as to what the largest dose of fentanyl may be that you use in your practice?

A. (Pause.)

I'm sorry, I think I lost your last statement.

Q. The question I asked, Dr. Yun, you mentioned that you used these in large dosages. So I was asking you if you could tell the Court for us what -- when you use a large dose, what number is that in relation to opioids. For fentanyl, for example, what would you consider a large dose?

A. So for an average male, adult male, in my clinical experience a large dose of fentanyl, one that would reliably produce unconsciousness and unawareness, would be on the order of 250 to 300 micrograms of fentanyl.

Q. So is it your testimony, then, Dr. Yun, that 250 micrograms of fentanyl causes reliability of unconsciousness and unresponsiveness in your practice?

A. In the vast majority of patients, yes.

Q. So if I recall correctly, the protocol is 2,500. So are you

saying -- is it fair to extrapolate, then, that that would be 10 times the amount of dose that you believe is necessary to create unconsciousness and unresponsiveness?

A. In the vast majority of patients, yes.

Q. And, Dr. Yun, in creating your -- your report at 516, I believe you referenced an article that I mentioned a moment ago, and that is a Streisand article regarding fentanyl-induced rigidity and unconsciousness. Do you recall using that document?

A. Yes.

Q. I'm just trying to find the paragraph where you -- I see it cited, but I'm trying to recall the paragraph where you reference it, Dr. Yun. So bear with me one moment.

A. Paragraph 4.

Q. Thank you very much, Dr. Yun, for the assist.

So Paragraph 4, if I see, is referring to the fact that opioids -- and when you say "opioids" there, I'm assuming that you're referring to both fentanyl and alfentanil in this -- that that's included in that, correct?

A. Correct.

Q. It says that, "Side effects can occur such as chest wall rigidity and lack of complete unconsciousness." It looks to me as if you cited this article that's been marked as Defendant's Exhibit 533 for some support for your position that chest wall rigidity occurs after the loss of consciousness. Is that

correct?

A. Yes.

Q. And is that also your own clinical experience with regard -- let me back up. I don't know if I've asked you that question.

Have you experienced a situation where your own patients have had chest wall rigidity?

A. No.

Q. Are you -- and that's current day or ever, you've never had a situation where one of your patients has experienced chest wall rigidity?

A. I've never in the thousands of patients I've treated with opioids knowingly encountered a case of chest wall rigidity.

Q. Okay. So is that -- because of that, is that why you indicate that it's possible that it may occur, but not always like -- but not always occur?

A. In my opinion, it's a very rare occurrence if it occurs at all. And, again, if it does occur, it would seem to occur after the patient has lost consciousness.

Q. Okay. And to be clear, because you said you're not aware of it occurring in any of your situations, have you used fentanyl or alfentanil at levels to induce unconsciousness?

A. Yes.

Q. So even in those circumstances, you have not experienced a situation where chest wall rigidity occurred.

A. Correct.

Q. I believe in your deposition you said that you've administered fentanyl thousands of times. Do you still agree with that statement?

A. Yes.

Q. And how about alfentanil? How many times do you think you've administered alfentanil over the course of your career?

A. Again, as a rough estimation, thousands of times.

Q. And, Dr. Yun, in your report at Paragraph 1, again, you indicated that these reliably cause unconsciousness and unresponsiveness at -- at -- and then in testimony you said large doses, which you said at 250 micrograms. Do you have any reason to believe that at a dose of 2,500 micrograms it would not result in unconsciousness or unresponsiveness?

A. No.

Q. And what do you base that opinion on?

A. Again, we know that there's always some variation in the human population in terms of pharmacokinetics and pharmacodynamics. But, in general, human beings will fall within two standard deviations of the mean. And so from my clinical experience, I know that the vast majority of time 250 to 300 micrograms of fentanyl given to an adult male will reliably produce unconsciousness and unresponsiveness. So to give a dose 10 times that, logically wipes out the possibility that there would be any chance that a human being would be able to survive that type of dose and be resistant to that massive

amount of opioid.

Q. And I think at Paragraph 2 you reference a summary of what you just said pertaining to the 2,500 to 5,000 microgram range. Is that a fair assessment of Paragraph 2 of your report?

A. Yes.

Q. And moving onto Paragraph 3 of your report, you indicate that -- the first sentence there that people will abuse it from time to time. I'm focussed on the last sentence. Can you read that last sentence for the record, please, of Paragraph 3, which is at the top of Page 3.

A. Yes. "A person receiving a large dose of opioids would reliably be in a state of intense analgesia and unconsciousness."

Q. And when you use "large dose" there, we again -- are we again referencing the 250 to 300 microgram dose that you previously testified to that you've used or are you referring to the NDOC protocol dose?

A. I'm referring to clinically large doses of opioids, so 250 to 300 micrograms of fentanyl.

Q. And you have the word "intense" in front of analgesia. That's a layman's term, but can you -- in medicine does the use -- putting "intense" in front of analgesia mean anything different than just analgesia? Can you describe to us why you used the term "intense" there?

A. (Pause.)

Q. Were you able to hear me, Dr. Yun?

A. That a large clinical dose of opioid would be able to provide analgesia for surgical procedures. So more than just the routine backache or ankle sprain. Large clinical doses of opioids can provide intense analgesia for intense procedures like surgical operations.

Q. And I think the beginning of your answer may have gotten broken up there a little bit, so I'm going to ask you to repeat that if you don't mind.

A. Sure. I used the word "intense" to convey the idea that large clinical doses of opioids provide more than just analgesia for the routine backache or ankle sprain, but, in fact, provide intense levels of analgesia and unconsciousness as would be required by intense procedures, surgical operations.

Q. Thank you, Dr. Yun.

And we may -- I think you discussed this in your rebuttal report. So if we need to turn there, we can, but do you have an opinion as to how quickly, once 2,500 micrograms of fentanyl is injected in an individual, that person would undergo intense analgesia and unconsciousness?

A. Yeah, we're talking seconds as opposed to minutes. Even with routine clinical doses of opioids, we see analgesic and loss of consciousness rapidly occur within 30 to 45 seconds.

Q. I want to move onto Paragraph 5 of your report, Dr. Yun, about ketamine, and if you can just expound on ketamine and what

you would expect it to occur in this particular use in the protocol.

A. So ketamine -- ketamine is a somewhat unique intravenous agent, because not only can it provide or produce unconsciousness, but also intense analgesia. And so it has been used reliably for decades in anesthesia because of those qualities.

Q. And when you use a dose of ketamine in your practice, a large dose, what is the dose that you would typically use that you would consider a large dose?

A. So a large dose at the clinical range would be approximately 2 milligrams per kilogram intravenously. So for an adult male who is, say, 100 kilograms, a dose -- a high therapeutic dose would be 200 milligrams of intravenous ketamine.

Q. And have you ever used 1,000 milligrams of ketamine in your practice?

A. No.

Q. But you did render an opinion as to what you would expect to occur with 1,000 milligrams of ketamine. What did you use to base your opinion as to the effects of 1,000 milligrams on an individual?

A. Well, we know that a massive dose of ketamine will produce, rapidly, unconsciousness and intense analgesia, because we know that a clinical dose of ketamine produces those results. And what most likely would happen from a logical scientific point of

view, we can extrapolate, is that a large excessive dose of ketamine, such as 1,000 milligrams, would not only produce unconsciousness and analgesia, rapidly, but for an extended period of time.

Q. Thank you for that explanation, Dr. Yun.

And you said it would rapidly cause anesthesia and unconsciousness. Again, how many -- how much time do you think it would take for the ketamine at that dose to cause analgesia and unconsciousness?

A. Again, it's something that we see in seconds as opposed to minutes, and so large clinical doses of ketamine, we see results within 30 to 60 seconds.

Q. And that's in actual therapeutic doses that you've used?

A. Yes.

Q. And if I'm looking at Paragraph 5 correctly, you also indicate that there are some potential side effects of ketamine, but that you don't expect those to occur in this circumstance. Can you explain why you wouldn't expect any of those side effects to occur if used in the protocol?

A. I'm not sure that's entirely accurate. What I would say is that any side effects that occur with ketamine would not be consciously recognized by the person because they are, in effect, unconscious from the dose of ketamine. So ketamine can produce heavy secretions. It can produce dysphoria and delirium after the patient recovers from the ketamine, but in a patient

who's -- who's being given a high therapeutic clinical dose of ketamine, let alone a massive overdose as produced -- as proposed by NDOC, that patient, obviously, would not be aware of the heavy secretions, the dysphoria, or any emergence delirium because they are completely unconscious with that massive dose of fentanyl -- with that massive dose of ketamine.

Q. And, Dr. Yun, I don't want -- and thank you for that clarification. You see what happens when you make an assumption. So I appreciate that clarification.

So when you say "emergence delirium," can you explain to us what that means, the use of the word "emergence"?

A. Yes. So after the ketamine becomes metabolized and its peak effect starts to subside, the patient starts to regain consciousness and a more normal level of cognition and awareness. And during that phase as they're waking up, so to speak, they may experience dysphoria, some delirium, some hallucinations, and just overall disorientation. And so that could occur with, especially, higher doses of ketamine.

Q. But to be clear, that would only occur when somebody is being awakened after being put to sleep, correct?

A. Correct.

Q. So if this individual was given this large dose of ketamine and the protocol works as it's designed to work and the person is deceased as a result, these would not be issues that would be a concern?

A. Yes, I think that's a fairly obvious logical conclusion.

Q. Dr. Yun, in your -- in your deposition you talked about the fact that opioid overdoses are something that anesthesiologists can, unfortunately, do from time to time accidently. Do you recall that circumstance?

A. Yes.

Q. And in those circumstances where -- where an opioid is -- and I have a hard time saying that word so I apologize -- when opioid overdoses occur, what are the side effects of that situation?

A. So let me describe the typical -- typical clinical scenario. We've taken a patient through a surgery successfully, we've turned off all of the anesthetic agents, and we are now just waiting for the patient to wake up. But the patient is not arousable and, in fact, their breathing is very slow. They have a very slow depressed respiratory rate.

Typically, we'll wait for a period of time to allow the patient to gently emerge from the anesthesia on their own. Eventually, there comes a point in time where we realize that the only thing keeping that person unconscious is a relative overdose of opioids that were given during the surgery. That is, we overestimated the amount of opioids that that patient needed. And so that patient, again, is unresponsive, unarousable. And so in order to reverse that situation, we give a dose of Naloxone, which is the universal reversal agent for

opioids. And then immediately, we see that patient immediately awaken, responsive to commands, and we're now able to take them out of the operating room and take them to the regular part of the recovery room process.

And in all those cases that I have personally experienced, and I probably have had about a dozen or so cases in my career, none of those patients recall being asleep in the operating room. They don't recall us rubbing their chest or calling out their name to wake up. They were in a very pleasant sleep state. And all of a sudden, suddenly emerged from that pleasant sleep state because we gave the reversal agent, Naloxone.

Q. And, Dr. Yun, this might be one of those questions that goes without saying, but, again, I don't like to make assumptions. If somebody is unresponsive and unaware, is it also then fair to say that that person then is not experiencing pain?

A. In fact -- yeah, it's obvious and logical. In fact, that patient is at the opposite end of the spectrum. They're experiencing too much analgesia from the opioid.

Q. And, Doctor -- I think -- Dr. Yun, thank you for your testimony on that front. I think you described that a little bit on your rebuttal report at Exhibit 519. I put that on the screen. Is that correct, where you discussed the fact that this has happened to you approximately twelve times?

A. Correct.

Q. And can you describe for us what the -- what universal signs of an opioid overdose are that you -- I think you also have them in your rebuttal report.

A. Yes. Common signs of an opioid overdose are unconsciousness, depressed breathing, pinpoint pupils, and unresponsiveness.

Q. And I believe you cited the World Health Organization for that premise. Is that correct?

A. Yes.

Q. I want to also talk about Exhibit 520 that's been admitted, and you reference it in your rebuttal report. Do you recall this -- this case study?

A. Yes.

Q. And what was the purpose of referencing this in your report, Dr. Yun?

A. Well, this is an example that typifies the common experience that I've had in patients who have had opioid overdoses in clinical practice. This is, perhaps, an extreme example because this patient received approximately a 30-fold or 30-times overdose of the opioid in this case. And despite this massive 30-fold overdose of this particular opioid, her vital signs were stable, she was unconscious, unaware, and when she emerged from this state, she had no recall of the events preceding her awakening.

Q. And, Dr. Yun, this opioid here, I think, was remifentanil.

Is that similar to fentanyl and alfentanil?

A. Yes. It's basically in the same class of drugs. That is, they are all opioids. And, chemically, they are all very similar. They differ in terms of their specific properties, obviously, but, in essence, they are all intravenous synthetic opioids.

Q. And so would this be a case study, then, that you would look at if you had a similar circumstance with fentanyl or alfentanil and expect the same thing to occur?

A. Yes. And the only reason I hesitate is because remifentanil is unique in that it is extremely short acting. That is, of all of the opioids that we use, remifentanil probably has the shortest clinical duration of action. That being said, I would still expect that a patient who received a massive overdose of fentanyl or alfentanil, if they receive the proper medical support and attention, they would make an uneventful recovery from an unconscious state in which they had no recall of the preceding events.

Q. And, in fact, that's similar to what you described in your rebuttal report that's happened to you approximately 12 times in your own career, correct?

A. With the caveat that in this case report this was a massive overdose, 30-fold times overdose. In clinical practice, we -- if we do overdose a patient, it tends to be on the magnitude of maybe one -- one to two times the actual clinical dose that was

needed for that patient. So I would hope that I would not give a patient, even inadvertently, a 30-fold overdose of an opioid.

Q. Understood. So -- but that's very helpful then, Dr. Yun.

So if it's even a shorter or a less of an overdose, then you would expect -- if there was no negative side effects with this large 30-times overdose, is it fair to say then that, obviously, an overdose of less magnitude would also cause no side effects?

A. Correct. Other than just delayed emergence.

Q. Right.

A. And delayed awakening, which we would have to reverse with Naloxone.

Q. Thank you, Dr. Yun.

I mentioned this document earlier, and I wanted to give an opportunity for you to discuss it a little bit further. And this is Exhibit 533 that you referenced in your report, which -- the Streisand study. I think we've referred to it throughout. Can you please explain to the Court the purpose of you relying on this study and what this study taught you pertaining to chest wall rigidity?

THE COURT: Hold on a moment. Just a second, Mr. Gilmer. 533?

MR. GILMER: Yes, Your Honor.

THE COURT: And I just wanted to make sure.

MR. GILMER: And I believe it was admitted yesterday.

THE COURT: It was. I'm pulling it. Just give me a moment.

MR. GILMER: And I have it on the screen here, too, when you're ready to publish.

THE COURT: I would rather -- I prefer the view of Dr. Yun so that I can see him.

MR. GILMER: Oh, understood. But he may need to see it.

BY MR. GILMER:

Q. Can you pull up 533 on your side, Dr. Yun, so that we can see you as you're reviewing it?

A. Yes, I see it.

Q. Very good.

Can you please explain to the Court the reason you cited this study and what this study taught you as it relates to chest wall rigidity?

A. Well, first let me clarify. I did not rely on this study to make my opinion, and I did not use this study to teach me about fentanyl chest wall induced rigidity. That is, even if this study did not exist, my opinion would still be the same based on my 20 years of clinical experience.

But this study did provide support in a more scientific way of the idea that fentanyl, when given in large doses, produces unconsciousness reliably and first before any sort of chest wall rigidity occurs. And that was the finding in this

study, that if the patients did develop chest wall rigidity, it was only after they had become unconscious first.

THE COURT: Dr. Yun --

THE WITNESS: And --

THE COURT: Excuse me, Dr. Yun. Do we know why chest wall rigidity develops at these high doses?

THE WITNESS: That is a great question. And to be honest, I have to say that we don't know completely the mechanism behind fentanyl-induced chest wall rigidity. It's obviously a complicated phenomenon, and I'm not going to pretend that I know the exact mechanisms because, quite frankly, none of us really do.

But it is a reported phenomenon and something that we all are aware of that could potentially exist. But, again, in my 20 years of clinical practice, I have not seen a case of opioid-induced chest wall rigidity.

THE COURT: And, Dr. Yun, one other question. You've not observed it yourself in your clinical practice, chest wall rigidity?

THE WITNESS: No.

THE COURT: And from your reading about chest wall rigidity, I guess one of the questions I have is, how would you know that it is occurring?

THE WITNESS: Again, a very good question. It can be very difficult to ascertain, but in general, after giving a

large dose of opioid, you would then experience difficulty ventilating the patient. That is, after a large dose of opioid, that patient's unconscious and not breathing. At that point, as an anesthesiologist, I routinely will intervene and try to assist the patient's breathing using my anesthesia machine apparatus.

And if there is chest wall rigidity, we would notice difficulty in getting air into the patient's lungs because, obviously, his chest wall is not compliant.

However, again, in my 20-plus years of clinical experience, I have not had that specific experience where I've given a patient a large dose of opioids and have had trouble then ventilating and moving air into their lungs.

THE COURT: And, Dr. Yun, I just wanted to be clear. In your experience, have you ever administered these dosages of fentanyl or alfentanil or ketamine in these time frames, either directly or inadvertently for any reason?

THE WITNESS: I have not come anywhere near giving the dosages as proposed by the NDOC protocol in a clinical situation.

THE COURT: Have you been involved in surgeries that occurred over several hours and would -- would there ever be a situation in which over several hours this amount of fentanyl or alfentanil or ketamine would be administered?

THE WITNESS: (Pause.) I'm trying to recall because I

have done some long surgeries in my career. And, in fact, my longest surgery was 26 hours. But even with those long surgeries, I don't recall ever coming close to the dosages proposed by the NDOC protocol.

THE COURT: Okay. Thank you, Dr. Yun.

MR. GILMER: Thank you for the question, Your Honor.

BY MR. GILMER:

Q. So following up on the -- on the Court's questions on that front, even though you haven't used that number, I believe earlier you -- you indicated that at the large dose that you do use you would anticipate unconsciousness and unawareness to occur within seconds. Is that correct?

A. Yes. So I have seen that routinely with the large clinical doses of opioids that I've given.

Q. And so based upon the fact that at that large dose somebody experiences unconsciousness within seconds, is it your medical opinion that -- that you would reach then that if the chest wall rigidity occurred in this high dosage, it would also occur after unconsciousness?

A. Right. I think that's a very logical extrapolation, yes.

Q. And then is it also fair to say then that if the person is unconscious, that they are unaware of any pain or discomfort?

A. Correct.

Q. Dr. Yun, I want to go back to your rebuttal report and Paragraph 6 of your rebuttal report where you talked about the

peak effect and you referenced -- I believe it's from Egan. You referenced a graph there. This was in reference to one of plaintiff's experts that had concerns about the fact that the ketamine would be injected possibly before fentanyl had reached its peak effect. Do you recall this portion of your rebuttal report?

A. Yes, I have it in front of me now.

Q. And do you share those concerns about moving on to ketamine prior to the peak effect of fentanyl?

A. Can you clarify that question?

Q. So -- so one -- the expert that was deposed was Dr. Stevens, and in his report he discussed concerns about the fact that NDOC may move on to ketamine prior to the peak effect of fentanyl taking place because of the three to five minutes, and you reference that at Paragraph 6. And then you discuss your understanding of the peak effect and if that would be a concern for you. So can you please help explain what you're saying in your report at Paragraph 6 in that respect.

A. I guess I should answer by saying I have no concerns whatsoever in giving ketamine before the peak effect of fentanyl has occurred. Keeping in mind that I am not sure what peak effect that Dr. Stevens was referring to. Because there are multiple actions of fentanyl that are in discussion: unconsciousness, analgesia, respiratory depression.

What I can tell you, though, as a clinical

anesthesiologist with over 20 years of experience, we cannot wait three to five minutes for an opioid to take an effect. That is because we're doing fast-changing surgeries where things are changing very quickly. We need to use drugs that work very quickly. You know, I can't give a patient a drug or an opioid in the middle of surgery, you know -- you know, the surgeon's cutting into the patient's chest, and not have any analgesic action for five minutes. That's not practical, that's not safe, and that's not what happens in clinical practice.

As soon as a patient starts to become responsive or stimulated by a painful stimulus, I give an anesthetic agent. And in my practice and in my experience when I give an anesthetic agent, I need to have it work quickly, within seconds. And, indeed, fentanyl, alfentanil, ketamine, they all work quickly to meet that need.

THE COURT: And, Dr. Yun, I assume that your opinion's all based upon these drugs being administered properly, and that means being administered properly and appropriately intravenously, that -- that the -- the site by which they're being administered is appropriate and properly set in the vein and that -- that the machinery being used is also properly working, correct?

THE WITNESS: Yes, correct.

THE COURT: And, Dr. Yun, what would you do to test -- well, you referenced, actually, earlier tests as it relates to

consciousness of an individual who has been given one of these drugs. What types of tests do you do as an anesthesiologist to check for awareness or consciousness of a patient if you suspect that that's happening?

THE WITNESS: So commonly I'll test the eyelash reflex. That is, I'll brush my finger against the patient's eyelashes to see if there's any response. I will perform a sternal rub with my fist or a jaw thrust with my fingers. I will also oftentimes have to place a breathing tube. And placing the breathing tube, that is laryngoscopy, is a tremendously stimulating and painful maneuver.

And so I need to make sure that that patient is immobile and unresponsive when I do that maneuver. And so that ultimately is many times the best test of the patient's level of anesthesia. That is, if I can place the breathing tube without that patient moving or responding, that is a very, very reliable and accurate way for me to conclude that that patient is indeed unconscious and unaware and not responsive to a painful stimulus.

THE COURT: So are you saying, Dr. Yun, you've had circumstances in which you've gone through all those other tests and they haven't responded, but when you try to place a tube, they did respond and you had to give additional anesthesia?

THE WITNESS: Yes, there have been times when I, perhaps, have to be more concerted in the doses of medicines

that I initially use. And as I go in to place the breathing tube, the patient may cough or respond to the laryngoscopy. And in those cases then I realize that that patient is unconscious, is not aware, but is obviously not immobile. And in order for me to usually place the breathing tube effectively and reliably, I ideally want that patient not moving at all whatsoever.

And so in those cases I will give additional bolus of an anesthetic agent to render them more immobile, but in those cases they're not aware or conscious of that maneuver. That is, I don't have patients waking up afterwards and saying, "Oh, my gosh. I remember you putting in the breathing tube." That has never occurred in my career.

THE COURT: Okay. And so you're saying that the -- that the initial tests are the tests that you also rely upon to see if they might even be partially conscious or aware: the rubbing on the sternum, the eyelash test, or the jaw thrust?

THE WITNESS: Correct.

THE COURT: All right. Thank you.

You know what, this is exactly 1 o'clock, and so what we're going to do is we have to make a hard stop here. Dr. Yun, I apologize. We -- we wanted to be able to take more of your testimony earlier, but, unfortunately, we had some runover. We're going to need to have you come back, as I'm sure you've been told, and we're going to have to arrange that.

But we do need to take our break today for the end of

the day at this time. And so we'll arrange for you to be brought back, but I'm going to excuse you at this time from the proceedings. So thank you again for your time, Dr. Yun.

THE WITNESS: Okay. Thank you.

MR. GILMER: And, Dr. Yun, we anticipate that will be Friday. So I'll touch base with you later.

THE WITNESS: Okay. Thank you.

THE COURT: Okay. I thought you had already told him that. Okay.

MR. GILMER: I had, but I just wanted to confirm for him that that's what we were still planning.

THE COURT: Okay. So we do need to, because we had initially planned to end today at 1, end today at 1. And that is a hard stop for us. Tomorrow we will start a little bit later. We'll start at 10:15, and then probably go a little bit later. I think we have ...

(Court conferring with court reporter.)

THE COURT: So we should probably go until 4 or 5 tomorrow. And so who do we anticipate for our witnesses tomorrow then?

MR. GILMER: Your Honor, I plan on calling Dr. Petersohn tomorrow, who I also think will be on the -- not quite a long as Dr. Buffington, but longer than Dr. Yun. I believe plaintiff had discussed possibly calling Dr. Azzam at that point in time before we started with Dr. Petersohn

because -- so we wouldn't have to break it up.

THE COURT: Right. So is that correct?

MR. ANTHONY: Court's indulgence for just a moment.

(Plaintiff's counsel conferring.)

MR. ANTHONY: That's correct, Your Honor, Dr. Azzam after Dr. Petersohn.

MR. GILMER: After or first?

THE COURT: Because --

MR. ANTHONY: Sorry, do Azzam first. We can get him in and out first tomorrow.

THE COURT: Okay. So here's what I'm going to tell you. I am still going to defer ruling on the motion to compel as it relates to Dr. Azzam, but we're going to end the proceeding today with an ex parte proceeding that I am going to have with Mr. Pomerantz about the privilege and issues that the Court finds might be appropriate. So is there anything else we need to do? Because that's going to be the last thing that we do. I'm going to excuse everyone and ask Mr. Pomerantz to stay.

MR. ANTHONY: Your Honor, for the plaintiff's side, we had mentioned a couple times being able to offer Dr. Heath on rebuttal, and we were hoping that we would be able to do that tomorrow afternoon. So I wanted to put that out there. I don't know ... or whether there's a later time, but I know that we also had a busy schedule on Friday as well, so I wanted to make sure that was raised.

THE COURT: So I appreciate you saying that. Mr. Gilmer, if you have some objection to that, let me know, after meeting and conferring with them about what we anticipate the rebuttal will be. But I will -- I will allow it tentatively for scheduling purposes now. And then I'll allow you, Mr. Gilmer, to raise an issue or objection if you think it's appropriate after speaking with plaintiff's counsel.

MR. GILMER: Yes. And, I mean, obviously, I would love for Dr. Petersohn's testimony to go that long, but I'm just not sure that we will be able to get to Dr. Heath. But, obviously, we can work that out. But, obviously, to the extent there's time tomorrow and we have no objections or work that out, that's fine.

THE COURT: Perfect. Anything else? Mr. Gilmer?

MR. GILMER: Your Honor, there was one other clarification with regard to an exhibit. I was looking back at the transcript for Day 1 -- or, I'm sorry, Day 2. Dr. Heath's deposition, which was Exhibit 547, I believe it was admitted at Page 93, Line 7 through 10. However, I also did not see it referenced on the sheet at the beginning. And looking at it, it was a little bit garbled. So I just wanted to confirm that that was also in the record.

THE COURT: I believe so, but if it wasn't clear, I will admit that exhibit.

(Defendant's Exhibit 547 is admitted.)

MR. GILMER: Thank you, Your Honor. I have nothing further with that. Thank you.

THE COURT: All right. Then I'm going to excuse you all except for Mr. Pomerantz and ask you all to please -- you can leave your materials -- actually, do we have something else? We don't, right?

You can leave your material here in the courtroom, but I would ask you to step out at this time, please.

(Whereupon the proceedings concluded at 1:04 p.m.)

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COURT REPORTER'S CERTIFICATE

I, PATRICIA L. GANCI, Official Court Reporter, United States District Court, District of Nevada, Las Vegas, Nevada, certify that the foregoing is a correct transcript from the record of proceedings in the above-entitled matter.

Date: December 15, 2021.

/s/ **Patricia L. Ganci**

Patricia L. Ganci, RMR, CRR

CCR #937